Parts Manual

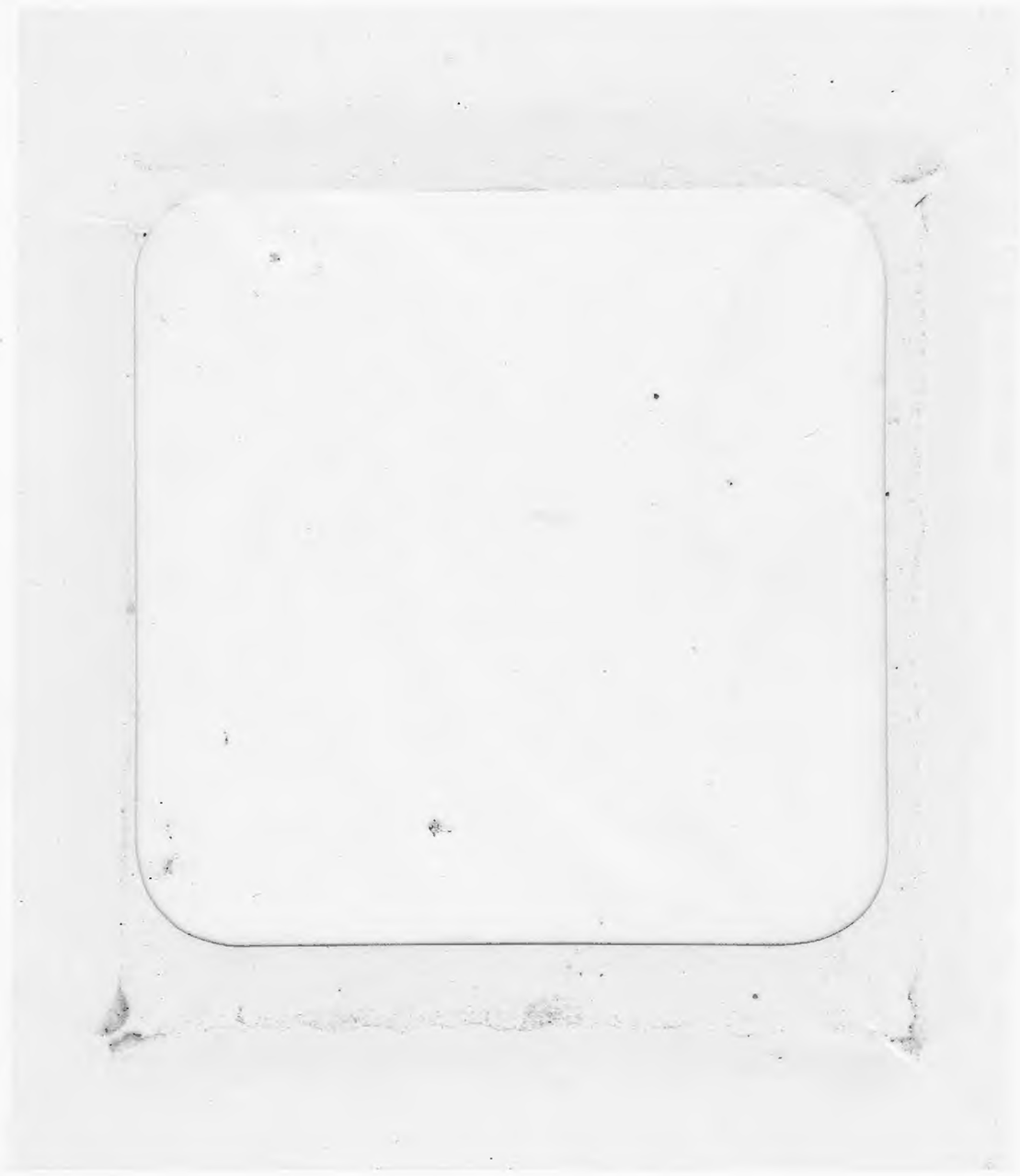
D-179
DIESEL ENGINE

FOR INTERNATIONAL PAYLINE APPLICATIONS

FORM
EPC-179-3

AUGUST, 1980

(Supersedes Form EPC-179-2)



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DIESEL ENGINE

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Due to a continuous program of research and development, some procedures, specifications and parts may be altered in a constant effort to update and improve our products.

Periodic revisions may be made to this publication and mailed automatically to distributors. It is recommended that customers contact their distributor for information on the latest revision.

NOTE: Industrial Product Applications Were Formerly Listed in Parts Catalog ENG-6.

PRINTED IN UNITED STATES OF AMERICA (0680)

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The black tabs shown on the right-hand side of this page line up with the corresponding tabs in the catalog. Tabs are quickly located by bending the catalog.

Printed in United States of America.

TO THE OWNER

It is our policy to improve our products whenever it is possible and practical to do so. We reserve the right to make changes or add improvements at any time without incurring any obligation to install such changes on products sold previously.

When ordering parts, always give the following information:

1. The Part Number, including suffix or prefix letters, the name of the part and the quantity needed. Do not include the illustration reference number.
2. The complete engine serial number of the machine, including the serial sequence number and suffix letter code. (Refer to "SERIAL NUMBERS" in "INTRODUCTION.")

We suggest that you write the engine serial number in the space provided below, for ready reference when parts are needed.

ENGINE _____

(Stamped on the right hand side of the crankcase midway of breather tube or above the valve tappet cover.)

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INTRODUCTION

This catalog contains a list of service parts for the D-179 Engine used in the following applications:

2400A, 2400B, 2405B, 2410B, 2412B and 3400A PAYtractors;
4500A and 4500B (SM and TC) PAYlifts;
240A (TC) PAYloader and PAYhoe;
240A (SM) and 240A (HS) PAYtractor, PAYloader and PAYhoe

The D-179 is a three-cylinder, 3.875 x 5.060 inch naturally aspirated diesel engine.

This catalog is divided into major sections which, in turn, are sub-divided into units. A listing of the major sections is shown on the flyleaf prefacing this publication. The tabs on the right hand side of the first page of each of these indexes correspond to the tabs shown on the flyleaf. A numerical index at the back of the catalog contains a listing of part numbers showing the section and page number where each part is listed and described.

Illustrations, in the form of exploded views, are provided to aid in locating and identifying parts. Parts illustrated are of typical parts and not necessarily detailed drawing. Reference numbers in the illustration tie-in each simple part, assembly or group of parts with a list of parts following each illustration. Parts are listed in reference number order as shown in the illustration, followed by the noun name of the part with the modifying descriptive information which serves to specifically identify the item. Parts not shown in the illustrations appear at the end of the unit list affected. Parts listed are for all applications. When parts are not common to all applications, the reference number will be followed by the phrase "See Individual Engine Variations." Locate your specific applications under heading "ENGINE VARIATIONS" located at end of unit parts list.

ASSEMBLIES: Wherever possible, the component parts of assemblies are shown in the "exploded views" by use of boxes, brackets or arrows. When assemblies cannot be shown as mentioned, they will be listed by one of the following methods.

(a) The listings are fully covered by descriptions for simple assemblies.

(b) When four or more parts are contained in the assemblies, the listing of components immediately follows the description with the wording "(Composed of-)."

(c) Assemblies consisting of many parts, show the assembly number at the beginning of the unit list, followed by the listing of the components.

The quantity of each item is shown following the description of the item. Where no quantity is shown, this indicates that only "-1-" is required.

Individual parts of an assembly not available for service are shown with the symbol §. In these cases, the complete assembly must be ordered for service.

In many parts lists, it is possible to include more than one assembly. The assemblies are listed at the beginning of the parts lists with the letters "A", "B", "C", etc., preceding the part number of the assembly. The number required information is shown in parenthesis following the description of the parts. When letters ("A", "B", "C", etc.,) are shown without a quantity, it should be understood to mean only (1) is required. Parts without letters after the description indicate the part is used for all assemblies listed in the heading.

Exceptions to the above methods are explained by footnotes in the text.

MISCELLANEOUS PARTS

Standard bolts, screws, nuts, etc., are not identified by a reference number. These parts are known as COMMON HARDWARE items and appear in abbreviated nomenclature and are shown indented under the major items with which they are used. They should be ordered as listed, since they are not component parts of the pieces they attach.

Hardware sizes will only be shown when more than one size is used to mount a part. Only one dimension will be shown to differentiate hardware.

WARNING: Attaching parts, especially made for their location, should never be substituted with regular standard parts.

The following rules are established to govern the listing of attaching parts:

All Carriage, Machine and Plow BOLTS; NUTS, Cap, Machine and Set SCREWS, will be considered furnished with National Coarse Thread unless otherwise specified. The number of threads per inch will be eliminated.

Standard bolts used in International Harvester Products are manufactured under standards known as Unified National Coarse Thread (U.N.C.) and Unified National Fine Thread (U.N.F.) with the number of threads per inch for various diameters as follows:

Diameter of Bolts	No. of Threads per inch (U.N.C.)	No. of Threads per inch (U.N.F.)
1/4"	20	28
5/16"	18	24
3/8"	16	24
7/16"	14	20
1/2"	13	20
9/16"	12	18
5/8"	11	18
3/4"	10	16
7/8"	9	14
1"	8	14
1-1/8"	7	12
1-1/4"	7	12
1-3/8"	6	12
1-1/2"	6	12

All NUTS will be considered "hex" unless otherwise specified.

All WASHERS will be considered "Plain" unless otherwise specified. The "ID", "OD" and "No." identity will be eliminated. The inside dimension will be listed first, followed by the outside diameter and the thickness.

All lock WASHERS will be considered "Medium" type unless specified as "Light" or "Heavy."

All cotter PINS will be considered "Extended-Prong" type unless otherwise specified.

All groove PINS will be considered "Standard Groove" unless otherwise specified.

All common RIVETS will be considered "Annealed" unless otherwise specified.

All countersunk-head tubular RIVETS will be considered "Copper-Plated Steel" unless otherwise specified.

All oval-head tubular RIVETS will be considered "Brass."

WHEN ORDERING PARTS, ALWAYS USE INTERNATIONAL HARVESTER PART NUMBERS AND DESCRIPTIONS SHOWN IN THE PARTS LIST.

SERIAL NUMBERS

MODEL	ENGINE STARTING SERIAL NUMBER (+)
2400A (*)	
2400B (*)	
2405B (*)	
2410B (*)	
2412B (*)	
3400A (*)	
4500A (*)	
4500B (SM) (*)	
240A and 4500B w/ Torque Converter Transmission (TC)	179DT2D400000
240A w/ Syncromesh Transmission (SM)	179DT2D410000
240A w/ Hydrostatic Transmission (HS)	179DT2D415000

(*) - Starting sequence number not available at time of printing.

(+) - Only the sequence number of the complete engine serial number is listed in this catalog to identify parts.

The engine serial number is stamped on the right hand side of the crankcase, midway of breather tube or above the valve tappet cover.

Customers should be urged to supply the complete engine serial number when ordering parts. No attempt is made at the factory to have the engine and chassis serial numbers correspond.

DESIGNATION OF PARTS

Throughout this catalog, the term "Front" indicates the fan end. Whenever the terms "Right" or "Left" are used, it should be understood to mean from a rear position looking toward the fan end.

REFER TO SECTION TWO FOR "QUICK REFERENCE LIST FOR FILTERS, FILTER ELEMENTS AND BELTS."

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ALPHABETICAL INDEX

DESCRIPTION	PAGE	FICHE
A		
Alternator (Not Furnished with Replacement Service Engine)	(%)	
B		
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Crankshaft	7-2	
Belt, Water Pump and Alternator	(%)	
Blade, Fan	(%)	
Breather, Engine	6-2	
C		
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Connections		
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Fuel Injection Pump	11-2, 11-4	
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Crankcase Front	6-5	
Valve Housing	8-2	
Crankcase	6-2	
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Head, Cylinder	8-2	
I		
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M		
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N		
Nozzle and Nozzle Holder	11-9, 11-10	
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(%) - Refer to Chassis Parts Catalog.

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Shackle, Engine Mounting	8-2	
Sleeve, Cylinder	4-2, 4-3	
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Valves		
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Intake	8-2	
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Water Pump	5-2	

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ENGINES 1

REFER TO ALPHABETICAL INDEX
FOR COMPLETE LISTING OF PARTS

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REF. NO.	PART NUMBER	DESCRIPTION

REPLACEMENT SERVICE ENGINE
(See NOTE A)

3 132 952 R97	ENGINE, replacement service (For 2400A, 2400B, 2405B, 2410B, 2412B, 4500A and 4500B with Synchromesh Transmission) (See NOTE C)
3 132 953 R96	ENGINE, replacement service (For 2400A, 2400B, 2405B, 2410B, 2412B and 3400A with Hydrostatic Transmission, and 3400A with Synchromesh Transmission) (See NOTE C)
3 218 550 R91	ENGINE, replacement service (For 240A and 4500B w/Torque Converter Transmission) (See NOTE B)
3 218 730 R91	ENGINE, replacement service (For 240A with syncromesh Transmission) (See NOTE B)
3 218 740 R91	ENGINE, replacement service (For 240A with Hydrostatic Transmission) (See NOTE B)

REF. NO.	PART NUMBER	DESCRIPTION

SKELETON SERVICE ENGINE
(See NOTE A)

3 144 026 R92	ENGINE, skeleton service (Consists of - Camshaft w/Gear and Bearings Connecting Rods w/Bearings Crankcase Assembly Crankshaft w/Bearings Piston w/Pins, Sleeves and Rings)

NOTE A: When ordering a Service Engine, give complete serial number (including letters and numerals) shown on crankcase of engine to be replaced.

NOTE B: Includes all current parts listed throughout this catalog for this particular engine variation, except as noted. Optional parts, packages and (x) - As Required parts listed in Section 2 thru 17 are not included.

NOTE C: Replacement Service Engine is no longer available. Service parts will be furnished throughout this catalog. Skeleton Engine 3 144 026 R92 is available for service.

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MISCELLANEOUS 2

REFER TO ALPHABETICAL INDEX
FOR COMPLETE LISTING OF PARTS

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MISCELLANEOUS

QUICK REFERENCE

FOR

FILTER ELEMENTS AND BELTS

ENGINE	MODEL	FUEL FILTER ELEMENTS		LUBRICATION FILTERS	BELTS – FAN, WATER PUMP AND ALTERNATOR
		FINAL	PRIMARY		
D-179	All	3 132 428 R2 (*) 3 144 477 R92 (**)	3 132 428 R2 (*) 3 144 477 R92 (**)	3 136 046 R93 or 398 080 R2	(%)

(%) - Refer to Chassis Parts Catalog.
(*) - For Models w/Bosch Model BR Fuel Injection Pump.
(**) - For Models w/Bosch Model CR Fuel Injection Pump.

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REF. NO.	PART NUMBER	DESCRIPTION	REF. NO.	PART NUMBER	DESCRIPTION

PACKAGES AND KITS

NOTE: For detail list of parts, refer to page indicated.

Page

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3 218 416 R91 SET, piston ring (Three Ring Pistons) 4-2
3 139 594 R91 SET, piston ring (Three Ring Pistons) 4-2
3 059 263 R93 SET, piston ring (Four Ring Pistons) 4-3

SECTION 5 - COOLING

3 055 285 R93 PACKAGE, water pump reconditioning 5-2

SECTION 6 - CRANKCASE

3 144 436 R91 PACKAGE, crankshaft bearing cap - rear 6-3
3 144 438 R91 PACKAGE, crankshaft bearing cap - center. 6-3
3 136 803 R94 PACKAGE, crankcase gasket. 6-3

SECTION 7 - CRANKSHAFT

3 228 133 R91 PACKAGE, crankcase front oil seal. 7-3

SECTION 8 - CYLINDER HEAD

3 136 798 R97 PACKAGE, cylinder head gasket. 8-4
3 218 399 R91 PACKAGE, valve seal 8-4
3 132 292 R91 PACKAGE, intake rocker arm. 8-3
3 132 293 R91 PACKAGE, exhaust rocker arm 8-3
3 144 785 R91 PACKAGE, valve cover housing breather (2400A, 2400B and 3400A) 8-4

SECTION 11 - FUEL SYSTEM

3 136 187 R92 PACKAGE, filter element - Primary 11-7
3 144 477 R92 PACKAGE, filter element - final 11-8
3 059 093 R91 PACKAGE, fuel injection pump external gasket 11-16
3 059 094 R93 PACKAGE, fuel injection pump internal gasket 11-16
3 078 526 R91 PACKAGE, fuel injection pump gasket. 11-19
3 136 101 R91 PACKAGE, pump plunger shim 11-14
3 136 397 R91 PACKAGE, pump plunger shim 11-14
3 078 772 R91 PACKAGE, control plunger 11-19
3 078 700 R91 PACKAGE, control plunger 11-19

CAMSHAFT 3

REFER TO ALPHABETICAL INDEX
FOR COMPLETE LISTING OF PARTS

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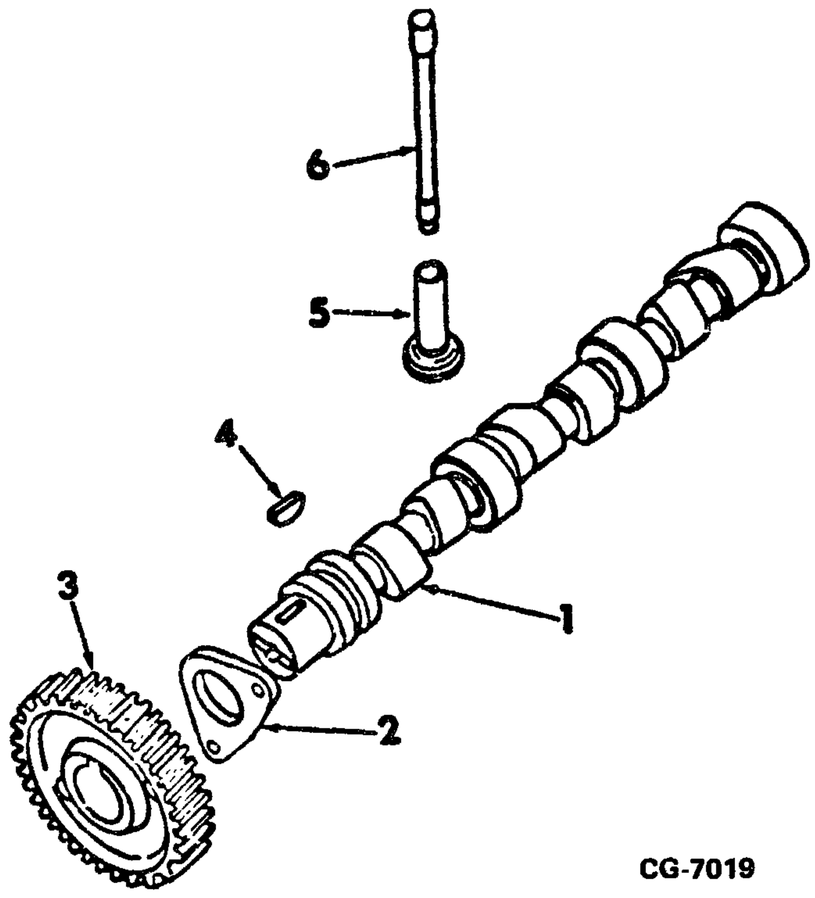
CAMSHAFT

REF. NO.	PART NUMBER	DESCRIPTION	REF. NO.	PART NUMBER	DESCRIPTION

CAMSHAFT AND RELATED PARTS



CG-7019

1	3 055 045 R2	CAMSHAFT
2	3 218 896 R1	PLATE, camshaft thrust
	or	
2	3 055 051 R2	PLATE, camshaft thrust
	179 816	SCREW, hex-hd cap (2)
	3 050 129 R1	WASHER, lock (2)
3	3 055 176 R1	GEAR, camshaft (66 Teeth)
4	124 551	KEY, camshaft gear Woodruff
5	3 055 052 R1	TAPPET, valve (6)
6	3 055 054 R92	ROD, valve push (6)
	or	
6	3 136 967 R1	ROD, valve push (6)
	or	
6	3 144 341 R1	ROD, valve push (6)

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CONNECTING ROD AND PISTON 4

REFER TO ALPHABETICAL INDEX
FOR COMPLETE LISTING OF PARTS

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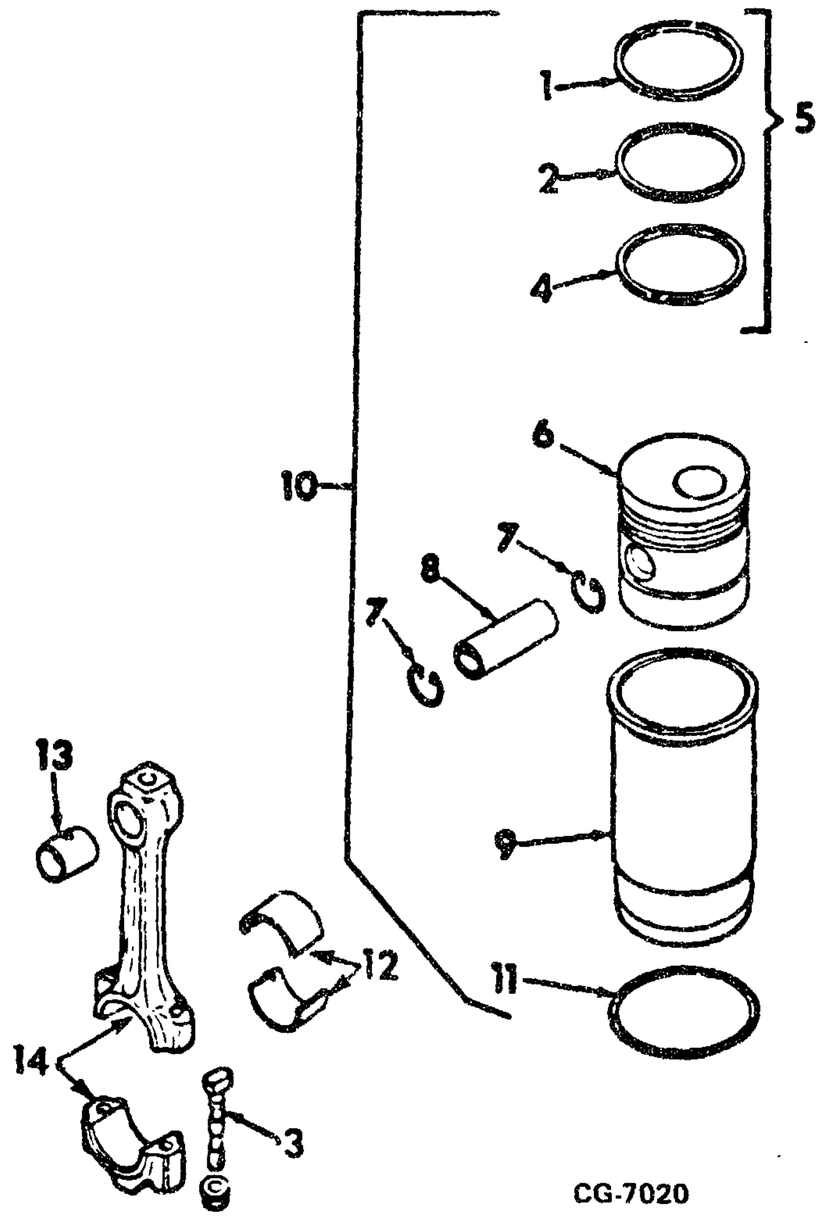
CONNECTING ROD AND PISTON

CONNECTING RODS, PISTONS AND SLEEVES (Three Ring Pistons)

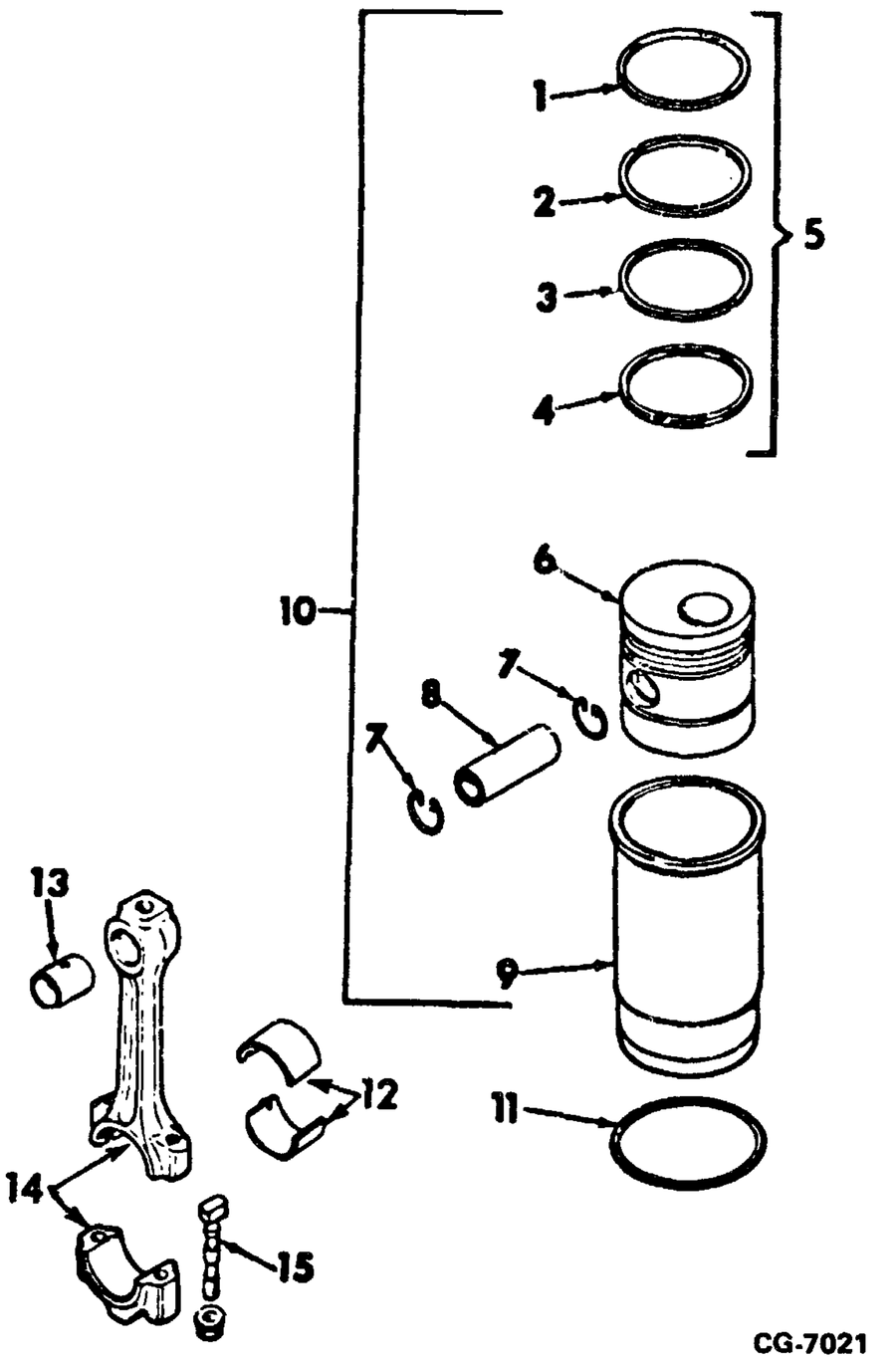


CG-7020

REF. NO.	PART NUMBER	DESCRIPTION
1		RING, compression (First) (Not furnished separately)(3)
2		RING, compression (Second) (Not furnished separately)(3)
3	3 055 033 R11	BOLT w/NUT connecting rod (6)
4		RING, oil control (Third) (Not furnished separately) (3)
5	3 139 594 R91	RING SET, piston (Used with PISTON ASSY., 3 139 591 R92)(3)
5	3 218 416 R91	RING SET, piston (Used with PISTON ASSY. 3 218 759 R91 (3) (replaces 3 144 452 R92)
6		PISTON (With Keystone-shaped upper ring groove (Order PISTON ASSY. 3 139 591 R92 (3)
6		PISTON (With rectangular-shaped upper ring groove) (Order PISTON ASSY. 3 218 759 R91)
7	933 327 R1 OR	RING, retainer (6)
7	3 228 245 R1	RING, retainer (6)
8	3 055 217 R2	PIN, piston (3)
9		SLEEVE, cylinder (Not furnished separately) (3)
10	3 139 591 R92	PISTON ASSY w/SLEEVE (3) (See NOTE) 56137 and below
10	3 218 759 R92	PISTON ASSY w/SLEEVE (3) (Replaces 3 144 257 R93) (See NOTE)
11	3 218 603 R1	"O" RING (Replaces 3 055 021 R2) (3)
12	3 055 351 R91	BEARING ASSY., connecting rod (Standard) (3)
12	3 056 834 R11	BEARING ASSY., connecting rod (0.250mm undersize) (3)
12	3 056 879 R11	BEARING ASSY., connecting rod (0.500 mm undersize) (3)
12	3 055 781 R11	BEARING ASSY., connecting rod (0.750mm undersize) (3)
13	3 132 018 R1	BUSHING, piston pin (3)
14	3 055 030 R24	ROD ASSY. w/BUSHING 3 132 018 R1, two BOLT 3 055 033 R11 and two NUT, connecting (3)

NOTE: When replacing all piston w/SLEEVE ASSEMBLIES for engine, order three PISTON ASSY., 3 218 759 R92.
When replacing less than a complete set of piston w/sleeve assemblies:
a) Order PISTON ASSY., 3 218 759 R92 if old piston has rectangular-shape upper ring groove.
b) Order PISTON ASSY., 3 139 591 R92 if old piston has keystone-shaped upper ring groove OR if old piston is four ring type.

CONNECTING RODS, PISTONS AND SLEEVES
(Four Ring Pistons)



CG-7021

REF. NO.	PART NUMBER	DESCRIPTION
1		RING, compression (First) (Not furnished separately) (3)
2		RING, compression (Second) (Not furnished separately) (3)
3		RING, compression (Third) (Not furnished separately) (3)
4		RING, oil control (Fourth) (Not furnished separately) (3)
5	3 059 263 R93	RING SET, piston (3)
6		PISTON (Not furnished separately) (3)
7	933 327 R1	SPRING, retainer (6)
8	3 055 217 R2	PIN, piston (3)
9		SLEEVE, cylinder (Not furnished separately) (3)
10	3 136 070 R94	PISTON ASSY w/SLEEVE (Order PISTON w/SLEEVE 3-Ring Type) (3)
11	3 218 603 R1	"O" RING (Replaces 3 055 021 R2)
12	3 055 351 R91	BEARING ASSY., connecting rod (Standard) (3)
12	3 056 834 R11	BEARING ASSY., connecting rod (0.250mm undersize) (3)
12	3 056 879 R11	BEARING ASSY., connecting rod (0.500mm undersize) (3)
12	3 055 781 R11	BEARING ASSY., connecting rod (0.750 mm undersize) (3)
13	3 132 018 R1	BUSHING, piston pin
14	3 055 030 R24	ROD ASSY., with BUSHING, 3 132 018 R1, two BOLT, 3 055 033 R11 and two NUT (3)
15	3 055 033 R11	BOLT w/nut, connecting rod (6)

COOLING 5

REFER TO ALPHABETICAL INDEX
FOR COMPLETE LISTING OF PARTS

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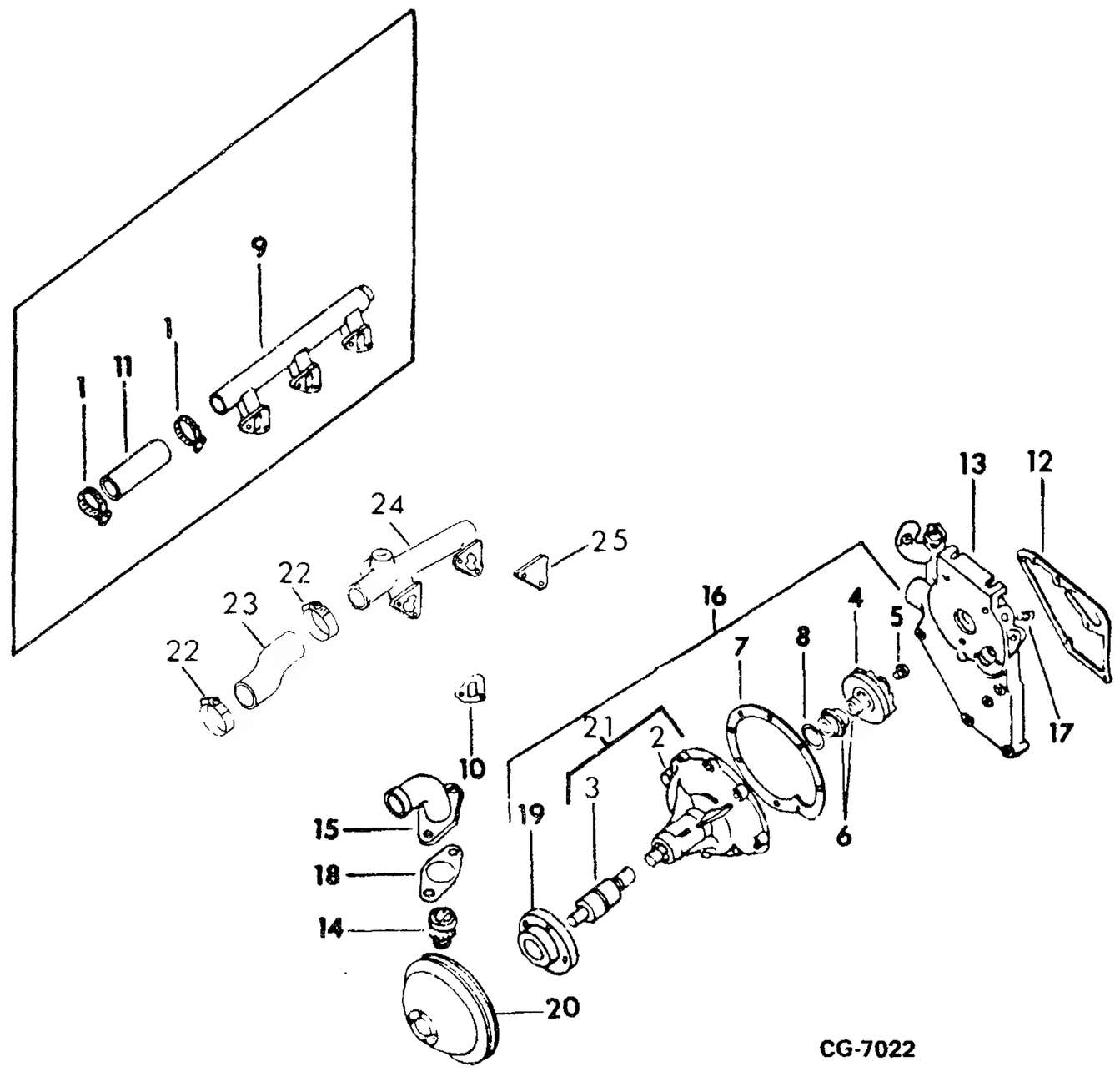
WATER PUMP, THERMOSTAT, THERMOSTAT BY-PASS FAN DRIVE AND RELATED PARTS



CG-7022

REF. NO.	PART NUMBER	DESCRIPTION
1		(See individual engine variation)
2	3 144 475 R2	HOUSING (Not furnished separately) (Order BODY ASSY, 3 132 677 R31)
2	3 132 677 R3	HOUSING (Not furnished separately) (Order BODY ASSY, 3 132 677 R31)
2	3 144 609 R2	HOUSING (Not furnished separately) (Order BODY ASSY, 3 132 677 R31)
3	3 144 445 R1	BEARING (Used w/HOUSING 3 144 475 R2 or 3 144 609 R2)
3	3 055 191 R91	BEARING (Used w/HOUSING 3 132 677 R3)
	or	
3	3 055 192 R91	BEARING (Used w/HOUSING 3 132 677 R3)
4	3 055 211 R2	IMPELLER, pump
5	3 055 308 R1	PLUG, closing
6	3 055 285 R93	PACKAGE, water pump reconditioning (Consists of – § 1 RING § 1 PACKING § 1 RING § 1 RING 1 GASKET 3 055 177 R1)
7	3 055 177 R1	GASKET, pump
8		"O" RING, seal (Order PACKAGE, 3 055 285 R93)
9		(See individual engine variation)
10	3 055 306 R1	GASKET, water pipe (3)
11		(See individual engine variation)
12	3 055 999 R1	GASKET, water pump carrier
13	3 136 678 R2	CARRIER, water pump
	186 270	SCREW, 3-1/2" long hex-hd cap
	186 272	SCREW, 4" long hex-hd cap
	179 830	SCREW, 3" long hex-hd cap (2)
	102 634	NUT, hex (2)
	3 050 129 R1	WASHER, lock (5)
	445 686	PLUG, pipe
	3 055 574 R1	WASHER, flat
14	3 059 676 R91	THERMOSTAT (176°-183°)
15	3 136 052 R1	ELBOW
	179 840	SCREW, hex-hd cap (2)
	103 321	WASHER, lock (2)

§ - Not Furnished Separately.

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REF. NO.	PART NUMBER	DESCRIPTION
		WATER PUMP, THERMOSTAT, THERMOSTAT BY-PASS FAN DRIVE AND RELATED PARTS — Continued
16	3 136 053 R91	PUMP ASSY., water
	179 822	SCREW, 1-1/2" long hex-hd cap (8)
	3 050 129 R1	WASHER, lock (8)
	3 132 679 R1	SCREW, 3-1/2" long hex-slt-hd
17	444 630	PLUG, pipe
18	3 132 143 R1	GASKET
19	3 132 146 R1	HUB, pulley
	or	
19	3 132 148 R1	HUB, pulley
20		(For Water Pump Pulley Refer to Chassis Catalog)
21	3 132 677 R31	BODY ASSY, water pump (Replaces 3 144 662 R92)
22		(See individual engine variation)
23		(See individual engine variation)
24		(See individual engine variation)
25	3 132 721 R1	PLATE, cover

ENGINE VARIATIONS

3400A

1	3 136 499 R1	CLAMP, hose (2)
	or	
1	755 023 R91	CLAMP, hose (2)
	or	
1	714 507 R91	CLAMP, hose (2)
9	3 055 254 R1	MANIFOLD, water collecting
	103 025	NUT, hex (6)
	3 218 395 R1	DISK, spring (5)
	3 136 506 R1	RING, packing
	712 616 R1	PLUG, hex-hd
	933 610 R1	RING, packing
11	3 132 144 R1	HOSE, connecting

(2400A, 2400B, 2405B, 2410B, 2412B, 4500A, 4500B (SM))

1	3 136 499 R1	CLAMP, hose (2)
	or	
1	755 023 R91	CLAMP, hose (2)
	or	
1	714 507 R91	CLAMP, hose (2)
		2400 and 4500 (SM) - 29416 and below
		2400 (HS) - 58336 and below
9	3 055 254 R1	MANIFOLD, water collecting
		2400 and 4500 (SM) - 29416 and below
		2400 (HS) - 58336 and below
	103 025	NUT, hex (6)
	3 218 395 R1	DISK, spring (5)
	3 136 506 R1	RING, packing
	712 616 R1	PLUG, hex-hd
	933 610 R1	RING, packing
11	3 132 144 R1	HOSE, connecting
		2400 and 4500 (SM) - 29416 and below
		2400 (HS) - 58336 and below
22	3 144 921 R1	CLAMP, hose (2)
		2400 and 4500 (SM) 29417 and up
		2400 (HS) 58337 and up
23	3 144 028 R1	HOSE, connecting
		2400 and 4500 (SM) 29417 and up
		2400 (HS) 58337 and up
24	3 218 034 R1	MANIFOLD, water collecting
		2400 and 4500 (SM) 29417 and up
		2400 (HS) 58337 and up
	103 025	NUT, hex (6)
	444 667	PLUG, hex-hd (2)
	103 320	WASHER, lock (2)
	3 218 395 R1	WASHER, flat (3)
	3 136 506 R1	RING, packing

(240A and 4500B (TC))

22	3 144 921 R1	CLAMP, hose (2)
	or	
22	755 023 R91	CLAMP, hose (2)
23	3 144 028 R1	HOSE, connecting
24	3 218 034 R1	MANIFOLD, water collecting
	103 025	NUT, hex (6)
	444 667	PLUG, hex-hd (2)
	3 136 506 R1	RING, packing
	3 055 574 R1	WASHER, flat (4)
	103 320	WASHER, lock (2)

REFER TO ALPHABETICAL INDEX
FOR COMPLETE LISTING OF PARTS

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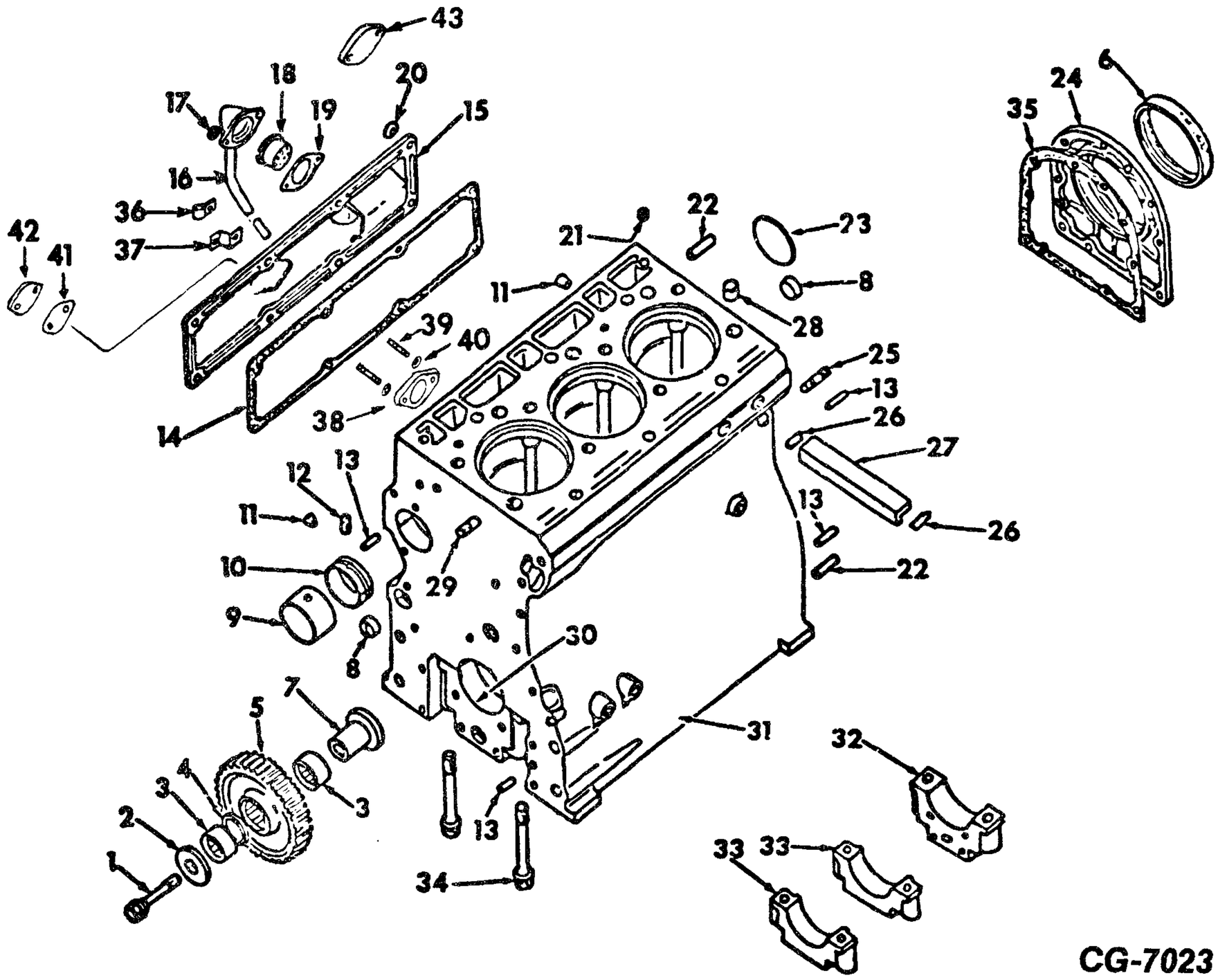
CRANKCASE

REF. NO.	PART NUMBER	DESCRIPTION

CRANKCASE AND RELATED PARTS



CG-7023

REF. NO.	PART NUMBER	DESCRIPTION
1	3 055 374 R2	BOLT, idler gear carrier
2	3 055 372 R1	WASHER, thrust
3	3 058 816 R91	RETAINER, needle bearing (2)
	or	
3	3 136 515 R91	RETAINER, needle bearing (2)
4	787 656 R1	RING, distance
5	3 055 043 R3	GEAR, idler (68 Teeth)
6	3 138 701 R91	SEAL, oil
7	3 055 373 R1	CARRIER, idler gear
8	933 537 R1	COVER, closing (2)
9	3 055 008 R1	BEARING, camshaft front
10	3 055 009 R1	BEARING, camshaft (3)
11	3 144 520 R1	PLUG, 1/4" slotted headless pipe (3)
12	103 883	PLUG, 1/8" slotted headless pipe (2)
13	141 242	PIN, 3/8" x 7/8" dowel (4)
14	3 055 394 R1	GASKET, side cover
	or	
14	3 136 174 R1	GASKET, side cover
15	3 055 313 R21	COVER, crankcase side
	179 814	SCREW, hex-hd cap (8)
	3 050 129 R1	WASHER, lock (8)
	3 055 574 R1	WASHER, flat (8)
16	3 144 020 R91	BREATHER
	179 816	SCREW, hex-hd cap (2)
17	3 138 687 R1	RING, packing (2)
18	3 055 324 R91	ELEMENT, filter breather
19	3 138 639 R1	GASKET, breather
20	3 055 574 R1	WASHER, flat (8)
21	3 136 004 R1	COVER, closing
22	141 284	PIN, 1/2" x 1-1/8" dowel (2)
23	172 602	PLUG, expansion
24	3 055 216 R1	RETAINER ASSY., rear oil seal
	179 816	BOLT, hex-hd cap (8)
	102 634	NUT, hex
	3 218 395 R1	DISK, spring (9)
25	3 055 270 R1	STUD, rear
26	714 868 R1	STRIP, seal (2)
27	3 055 214 R1	STRIP, crankcase sealing

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CRANKCASE

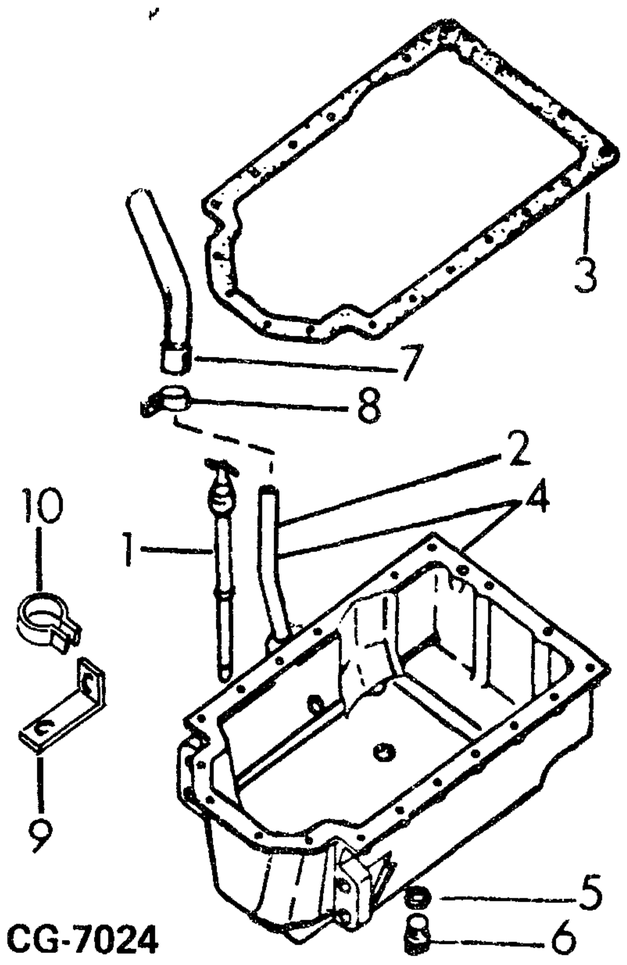
REF. NO.	PART NUMBER	DESCRIPTION
CRANKCASE AND RELATED PARTS - Continued		
28	3 055 007 R1	BUSHING, dowel (2)
29	3 055 989 R1	STUD, front
30		CAP, crankshaft front bearing (Order CRANKCASE ASSY.)
31	3 055 001 R36	CRANKCASE ASSY. (Composed of -
		§ 1 CRANKCASE
		2 PLUG 103 883
		3 PLUG 3 144 520 R1
		4 PIN 141 242
		2 PIN 141 284
		1 PLUG 172 602
		1 COVER 3 136 004 R1
		2 COVER 933 537 R1
		2 BUSHING 3 055 007 R1
		1 BEARING 3 055 008 R1
		3 BEARING 3 055 009 R1
		8 SCREW 3 138 580 R1
		§ 1 CAP ASSY.
		§ 2 CAP ASSY.
		§ 1 CAP ASSY.
		1 STUD 3 055 270 R1)
32		CAP, crankshaft rear bearing (Order PACKAGE, 3 144 436 R91)
33		CAP, crankshaft center bearing (Order PACKAGE, 3 144 438 R91) (2)
34	3 138 580 R1	BOLT, bearing cap (8)
35	3 055 215 R1	GASKET, seal retainer
36	3 144 023 R1	CLAMP
	179 816	SCREW, hex-hd cap
	103 320	WASHER, lock
	102 634	NUT, hex
37	3 144 022 R1	LINK, fixing
	179 900	SCREW, hex-hd cap
	103 324	WASHER, lock
38	3 055 391 R22	FLANGE ASSY. (Includes Ref. Nos. 39 and 40)
	933 682 R1	DISC, spring (2)
	933 064 R1	NUT, hex (2)
39	3 055 388 R1	STUD (2)
40	3 132 869 R1	WASHER (2)
41	3 144 685 R1	GASKET, cover
42	3 144 684 R1	COVER
43	3 144 789 R1	COVER, breather (Used with valve cover breather package)
	3 144 436 R91	PACKAGE, crankshaft bearing cap (Rear) (Consists of -
		§ 1 CAP
		§ 2 SCREW
	3 144 438 R91	PACKAGE, crankshaft bearing cap (Center) (Consists of -
		§ 1 CAP
		§ 2 SCREW
	3 136 803 R94	PACKAGE, crankcase gasket (Consists of -
	172 602	PLUG, expansion
	710 097 R2	RING, packing
	713 778 R1	"O" RING
	713 845 R1	RING, packing (3)
	714 868 R1	STRIP, seal (2)
	933 222 R1	RING, packing
	933 087 R2	RING, packing
	933 608 R1	RING, packing
	933 610 R1	RING, packing (10)
	3 138 687 R1	RING, packing (2)
	3 052 295 R91	RING, radial seal
	3 218 603 R1	RING, cylinder sleeve seal (3)
	3 138 640 R1	GASKET, injection pump cover
	3 055 160 R1	GASKET, oil pan
	3 055 177 R1	GASKET, water pump
	3 055 199 R1	"O" RING (3)
	3 055 215 R1	GASKET, seal retainer
	3 055 237 R1	GASKET, oil filter socket
	3 055 239 R1	GASKET, front cover plate
	3 138 639 R1	GASKET, breather
	3 055 384 R1	GASKET, fuel injection pump
	934 005 R1	RING, packing
	3 055 394 R1	GASKET, side cover
		or
	3 136 174 R1	GASKET, side cover
	3 055 994 R1	GASKET, front cover
	3 055 999 R1	GASKET, water pump carrier
	3 132 541 R1	GASKET, closing cover
	3 136 248 R1	GASKET, exhaust elbow
	3 055 389 R2	"O" RING
	3 132 869 R1	"O" RING (2))

NOTE: Items 16, 17, 18, 36 and 37 are used with crankcase side cover breather.

§ - Not Furnished Separately.

CRANKCASE

CRANKCASE OIL PAN, OIL LEVEL GAUGE AND RELATED PARTS



CG-7024

REF. NO.	PART NUMBER	DESCRIPTION
1		(See Individual Engine Variation)
2		(See Individual Engine Variation)
3	3 055 160 R1	GASKET, oil pan
4		(See Individual Engine Variation)
5	933 608 R1	SEAL, washer
6	3 132 544 R2	PLUG, drain
7		(See Individual Engine Variation)
8		(See Individual Engine Variation)
9		(See Individual Engine Variation)
10		(See Individual Engine Variation)

ENGINE VARIATIONS

(2400A, 4500A and 4500B (SM) with Cast "I" Beam Steering Axle Attachment)

REF. NO.	PART NUMBER	DESCRIPTION
1	538 268 R1	GAUGE, oil level
2	3 136 241 R1	PIPE, oil filler
4	3 136 042 R95	PAN ASSY., oil
	3 218 395 R1	DISC, spring (4)
	179 818	SCREW, 1" long hex-hd cap (11)
	179 830	SCREW, 3" long hex-hd cap (2)
	179 817	SCREW, 7/8" long hex-hd cap (2)
	3 050 129 R1	WASHER, lock (15)
7	538 267 R1	EXTENSION, oil filler tube
8	376 355 R1	CLAMP, breather tube
	179 797	SCREW, hex-hd cap
	109 084	NUT

(2400B, 2405B, 2410B, 2412B and 3400A)

REF. NO.	PART NUMBER	DESCRIPTION
1	3 136 242 R2	GAUGE, oil level
2	3 136 241 R1	PIPE,.oil filler
4	3 136 042 R95	PAN ASSY., oil
	3 218 395 R1	DISC, spring (4)
	179 818	SCREW, 1" long hex-hd cap (11)
	179 830	SCREW, 3" long hex-hd cap (2)
	179 817	SCREW, 7/8" long hex-hd cap (2)
	3 050 129 R1	WASHER, lock (15)

(240A and 4500B (TC))

REF. NO.	PART NUMBER	DESCRIPTION
1	3 218 554 R1	GAUGE, oil level
2		TUBE, oil filler (Not furnished separately)
4	3 218 551 R91	PAN ASSY., oil
	179 818	SCREW, 1" long hex-hd cap (11)
	179 819	SCREW, 1-1/8" long hex-hd cap (4)
	179 830	SCREW, 3" long hex-hd cap (2)
	179 817	SCREW, 2-7/8" long hex-hd cap (2)
	3 050 129 R1	WASHER, lock (15)
	3 218 395 R1	WASHER (4)
9	3 218 553 R1	SUPPORT, oil level gauge
10	3 132 818 R1	CLAMP, oil filler tube
	179 795	SCREW, hex-hd cap
	103 319	WASHER, lock
	109 084	NUT
	934 850 R1	WASHER, flat

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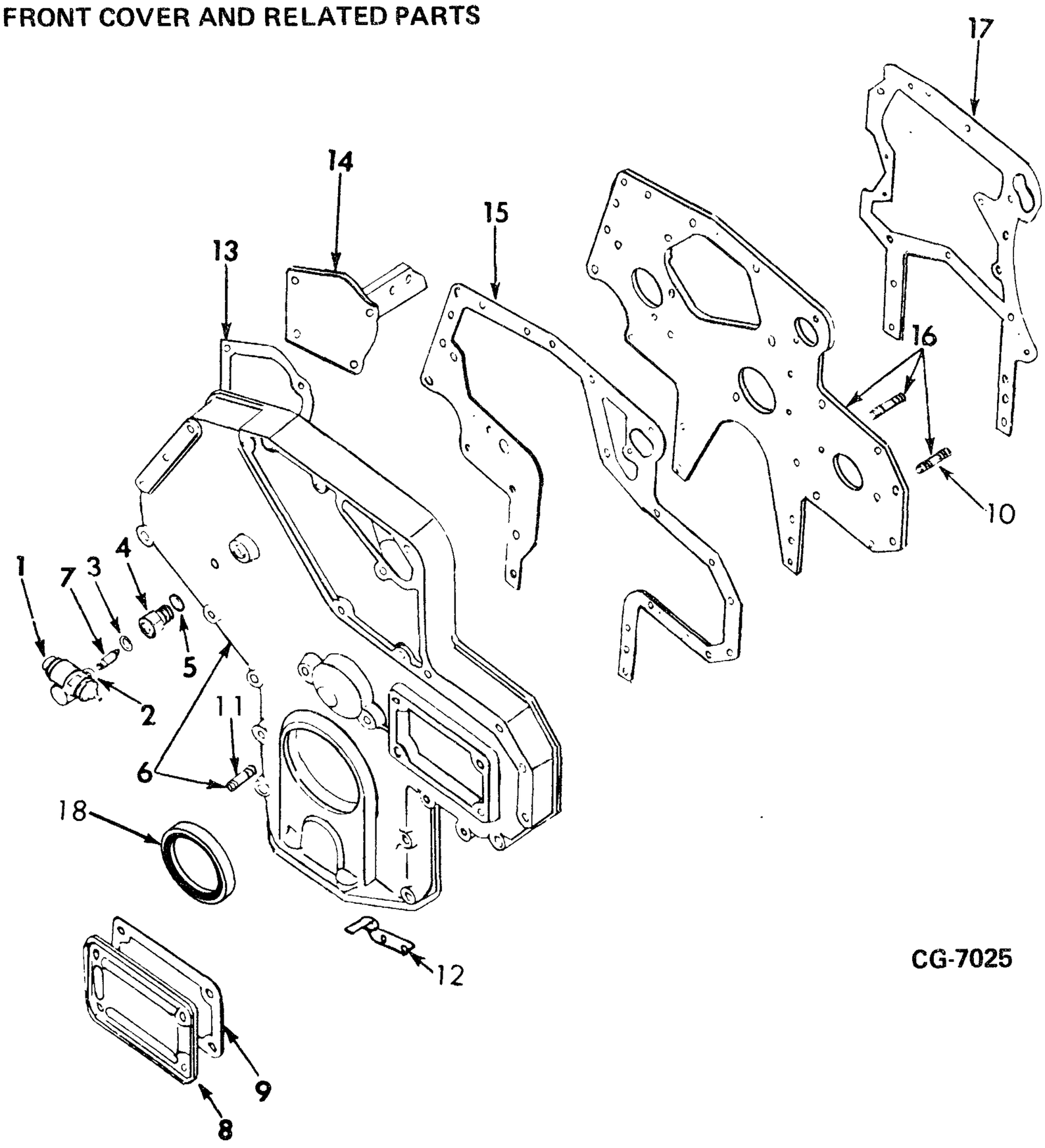
CRANKCASE FRONT COVER AND RELATED PARTS



CG-7025

REF. NO.	PART NUMBER	DESCRIPTION
1	3 055 982 R93	DRIVE ANGLE
2	3 132 116 R1	NUT, hex
3	3 052 295 R91	RING, radial seal
4	3 055 983 R1	SPACER
5	3 051 337 R1	RING, packing
6	3 136 057 R14	COVER ASSY., crankcase front
	179 826	SCREW, 2" long hex-hd cap (9)
	179 827	SCREW, 2-1/4" long hex-hd cap (2)
	179 828	SCREW, 2-1/2" long hex-hd cap (2)
	102 634	NUT, hex (3)
	103 320	WASHER, lock (2)
	3 218 395 R1	DISK, spring (6)
	3 050 129 R1	WASHER, lock (5)
7	3 056 986 R1	SHAFT, angle drive extension
8	3 055 140 R1	COVER, injection pump
	120 214	WASHER, lock (4)
	102 634	NUT, hex (4)
	131 402 H	WASHER, flat (4)
9	3 138 640 R1	GASKET, injection pump cover
10	3 055 065 R1	STUD (2)
	102 634	NUT, hex (2)
11	3 055 242 R1	STUD (4)
12	3 136 252 R11	INDICATOR, timing
13	3 132 541 R1	GASKET, closing cover
14	3 138 776 R91	COVER
	179 827	SCREW, hex-hd cap (4)
	103 320	WASHER, lock (4)
	102 634	NUT, hex (4)

REF. NO.	PART NUMBER	DESCRIPTION
		CRANKCASE FRONT COVER AND RELATED PARTS - Continued
15	3 055 994 R1	GASKET, crankcase front cover
16	3 055 996 R11	PLATE ASSY. w/STUD, 3 055 065 R1 and NUT, 102 634 crankcase front
	179 814	SCREW, hex-hd cap (7)
	179 816	SCREW, hex-hd 240A/4500B (TC) -400 999 and up 240A SM-410 384 and up 240 HS-415 104 and up
	3 050 129 R1	WASHER, lock (7)
	20 990 R1	PLUG, pipe
17	3 055 239 R1	GASKET, front plate
18		SEAL, front oil (Order PACKAGE, 3 136 724 R94. Refer to "Crankshaft")

REF. NO.	PART NUMBER	DESCRIPTION

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REFER TO ALPHABETICAL INDEX
FOR COMPLETE LISTING OF PARTS

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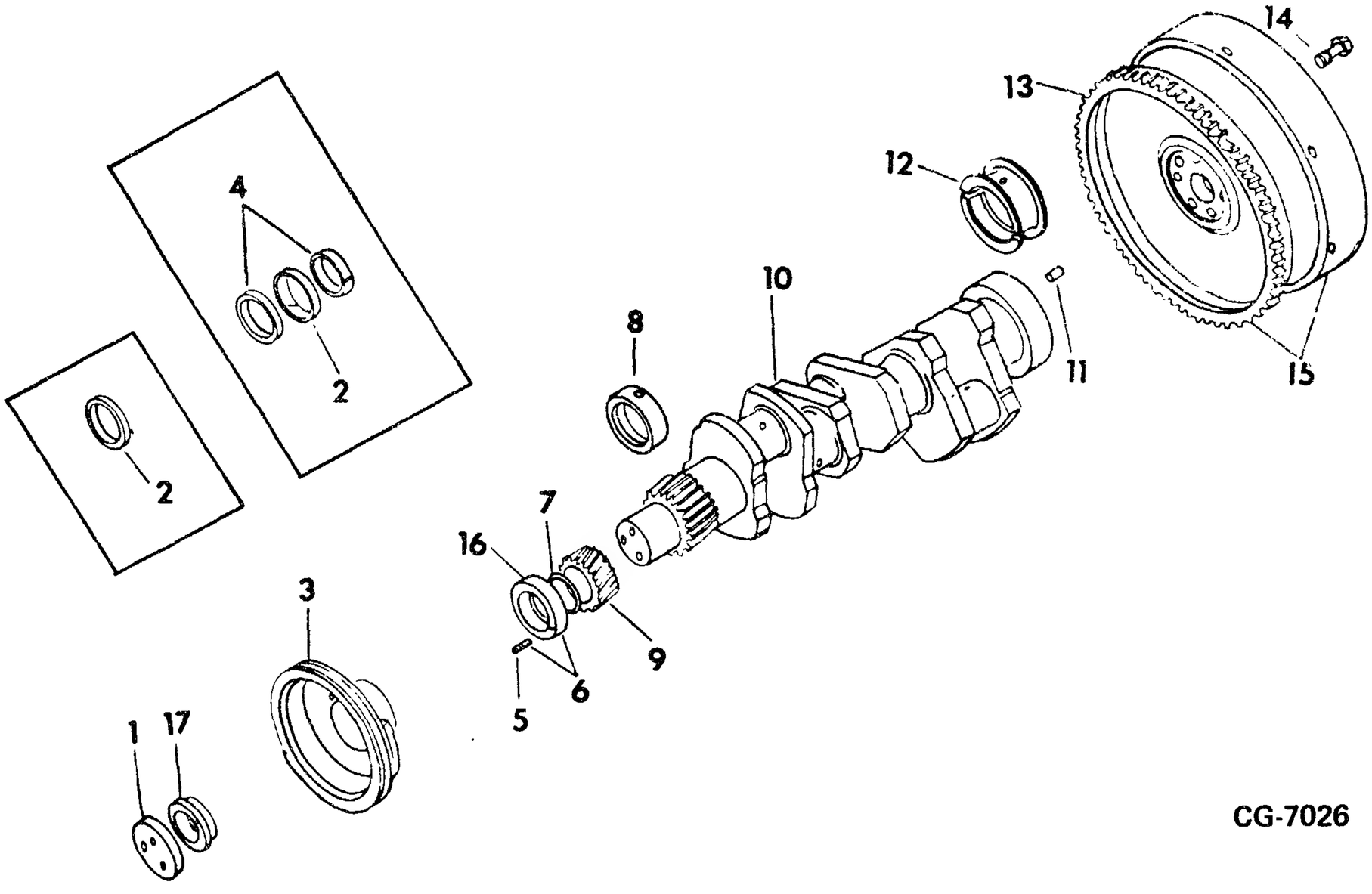
CRANKSHAFT

CRANKSHAFT, FLYWHEEL AND RELATED PARTS



CG-7026

REF. NO.	PART NUMBER	DESCRIPTION
1	3 055 154 R1	WASHER, pressure
	308 464 R1	SCREW, hex-hd cap (3)
2	3 055 153 R1	RING, pressure (Used w/CRANKSHAFT PULLEY, 3 136 251 R1) (2)
3		(See Individual Engine Variations)
3		(See Individual Engine Variations)
4	3 055 152 R91	ELEMENT, spring tightener (Used w/CRANKSHAFT PULLEY, 3 136 251 R1) (2)
5	932 681 R1	PIN, dowel 24mm (0.945 in.)
5	932 224 R1	PIN, dowel 28mm (1.102 in.)
5	932 652 R1	PIN, dowel 32mm (1.260 in.)
6		RING ASSY., distance (Order PACKAGE, 3 228 133 R91)
7	713 778 R1	"O" RING
8	3 055 130 R21	BEARING ASSY., crankshaft main (Standard) (3)
8	3 056 832 R21	BEARING ASSY., crankshaft main (0.250mm undersize) (3)
8	3 056 877 R21	BEARING ASSY., crankshaft main (0.500mm undersize) (3)
8	3 055 779 R21	BEARING ASSY., crankshaft main (0.750mm undersize) (3)
9	3 055 028 R1	GEAR, crankshaft pinion (33 Teeth)
10		(See Individual Engine Variations)

§ - Not Furnished Separately.

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CRANKSHAFT

REF. NO.	PART NUMBER	DESCRIPTION
CRANKSHAFT, FLYWHEEL AND RELATED PARTS – Continued		
11	141 244	PIN, 3/8 x 1" dowel
12	3 055 129 R21	BEARING ASSY., crankshaft main (Standard)
12	3 056 820 R11	BEARING ASSY., crankshaft main (0.250mm undersize)
12	3 056 875 R11	BEARING ASSY., crankshaft main (0.500mm undersize)
12	3 055 776 R11	BEARING ASSY., crankshaft main (0.750 mm undersize)
13	60 883 H	GEAR, ring
14		(See Individual Engine Variation)
15		(See Individual Engine Variation)
16		RING (Order PACKAGE, 3 228 133 R91)
17	3 138 874 R1	RING, clamping
	932 169 R1	PIN, roll
	3 228 133 R91	PACKAGE, crankshaft oil seal service (Consists of -
	§ 1	RING
	1	PIN 932 681 R1
	1	PIN 932 224 R1
	1	PIN 932 652 R1
	§ 1	SEAL
	1	"O" RING 713 778 R1)

ENGINE VARIATIONS

(2400A and 4500A w/Syncromesh Transmission)

3	3 136 251 R1	PULLEY, crankshaft (Order PULLEY, 3 138 790 R1 and RING, 3 138 874 R1)
3	3 138 790 R2	PULLEY, crankshaft 21313 and below
3	3 144 613 R1	PULLEY, crankshaft 21314 and up
10	3 136 045 R93	CRANKSHAFT w/BEARINGS 21313 and below (Composed of -
	§ 1	CRANKSHAFT
	1	PIN 141 244
	1	PIN 932 169 R1
	1	GEAR 3 055 028 R1
	1	BEARING 3 055 129 R21
	3	BEARING 3 055 130 R21
	3	BEARING 3 055 351 R91)
10	3 132 782 R2	CRANKSHAFT w/BEARINGS 21314 and up (Composed of -
	§ 1	CRANKSHAFT
	1	PIN 141 244
	1	PIN 932 169 R1
	1	GEAR 3 055 028 R1
	1	BEARING 3 055 129 R21
	3	BEARING 3 055 130 R21
	3	BEARING 3 055 351 R91)
14	3 132 159 R2	BOLT, flywheel (Used w/FLYWHEEL, 3 136 044 R41) (7)
14	3 218 037 R1	BOLT, flywheel (Used w/FLYWHEEL, 3 144 614 R94) (7)
15	3 136 044 R41	FLYWHEEL ASSY. 21313 and below
15	3 144 614 R94	FLYWHEEL ASSY. 21314 and up

(3400A)

3	3 136 251 R1	PULLEY, crankshaft (Order PULLEY, 3 138 790 R1 and RING, 3 138 874 R1)
3	3 138 790 R2	PULLEY, crankshaft
10	3 136 045 R93	CRANKSHAFT w/BEARINGS (Composed of -
	§ 1	CRANKSHAFT
	1	PIN 141 244
	1	PIN 932 169 R1
	1	GEAR 3 055 028 R1)
	1	BEARING 3 055 129 R21
	3	BEARING 3 055 130 R21
	3	BEARING 3 055 351 R91)
14	3 132 159 R2	BOLT, flywheel (7)
15	3 136 044 R41	FLYWHEEL ASSY.

§ - Not Furnished Separately.

CRANKSHAFT

REF. NO.	PART NUMBER	DESCRIPTION

CRANKSHAFT, FLYWHEEL AND RELATED PARTS – Continued

ENGINE VARIATIONS - CONTINUED

(2400A, 2400B, 2405B, 2410B, 2412B and 240A w/Hydrostatic Transmission)

3	3 136 251 R1	PULLEY, crankshaft (Order PULLEY, 3 138 790 R1 and RING, 3 138 874 R1)
3	3 138 790 R2	PULLEY, crankshaft
10	3 136 045 R93	CRANKSHAFT w/BEARINGS (Composed of -
		§ 1 CRANKSHAFT
		1 PIN 141 244
		1 PIN 932 169 R1
		1 GEAR 3 055 028 R1
		1 BEARING 3 055 129 R21
		3 BEARING 3 055 130 R21
		3 BEARING 3 055 351 R91)
14	3 218 037 R1	BOLT, flywheel (7)
15	3 136 044 R41	FLYWHEEL ASSY.

(2400B, 2405B, 2410B, 2412B and 4500B w/Syncromesh Transmission)

3	3 144 613 R1	PULLEY, crankshaft
10	3 136 045 R93	CRANKSHAFT w/BEARINGS (Composed of -
		§ 1 CRANKSHAFT
		1 PIN 141 244
		1 PIN 932 169 R1
		1 GEAR 3 055 028 R1
		1 BEARING 3 055 129 R21
		3 BEARING 3 055 130 R21
		3 BEARING 3 055 351 R91)
14	3 218 037 R1	BOLT, flywheel (7)
15	3 144 614 R94	FLYWHEEL ASSY.

(240A w/Syncromesh Transmission)

3	3 144 613 R1	PULLEY, crankshaft
10	3 055 782 R92	CRANKSHAFT w/BEARINGS (Composed of -
		§ 1 CRANKSHAFT
		1 PIN 141 244
		1 PIN 932 169 R1
		1 GEAR 3 055 028 R1
		1 BEARING 3 055 129 R21
		3 BEARING 3 055 130 R21
		3 BEARING 3 055 351 R91)
14	3 218 037 R1	BOLT, flywheel (7)
15	3 144 614 R94	FLYWHEEL ASSY.

(240A and 4500B w/Torque Converter Transmission)

3	3 138 790 R1	PULLEY, crankshaft
10	3 136 045 R93	CRANKSHAFT w/BEARINGS (Composed of -
		§ 1 CRANKSHAFT
		1 PIN 141 244
		1 PIN 932 169 R1
		1 GEAR 3 055 028 R1
		1 BEARING 3 055 129 R21
		3 BEARING 3 055 130 R21
		3 BEARING 3 055 351 R91)
14	3 218 558 R1	BOLT, flywheel
15	3 218 556 R91	FLYWHEEL ASSY.

(§) - Not Furnished Separately.

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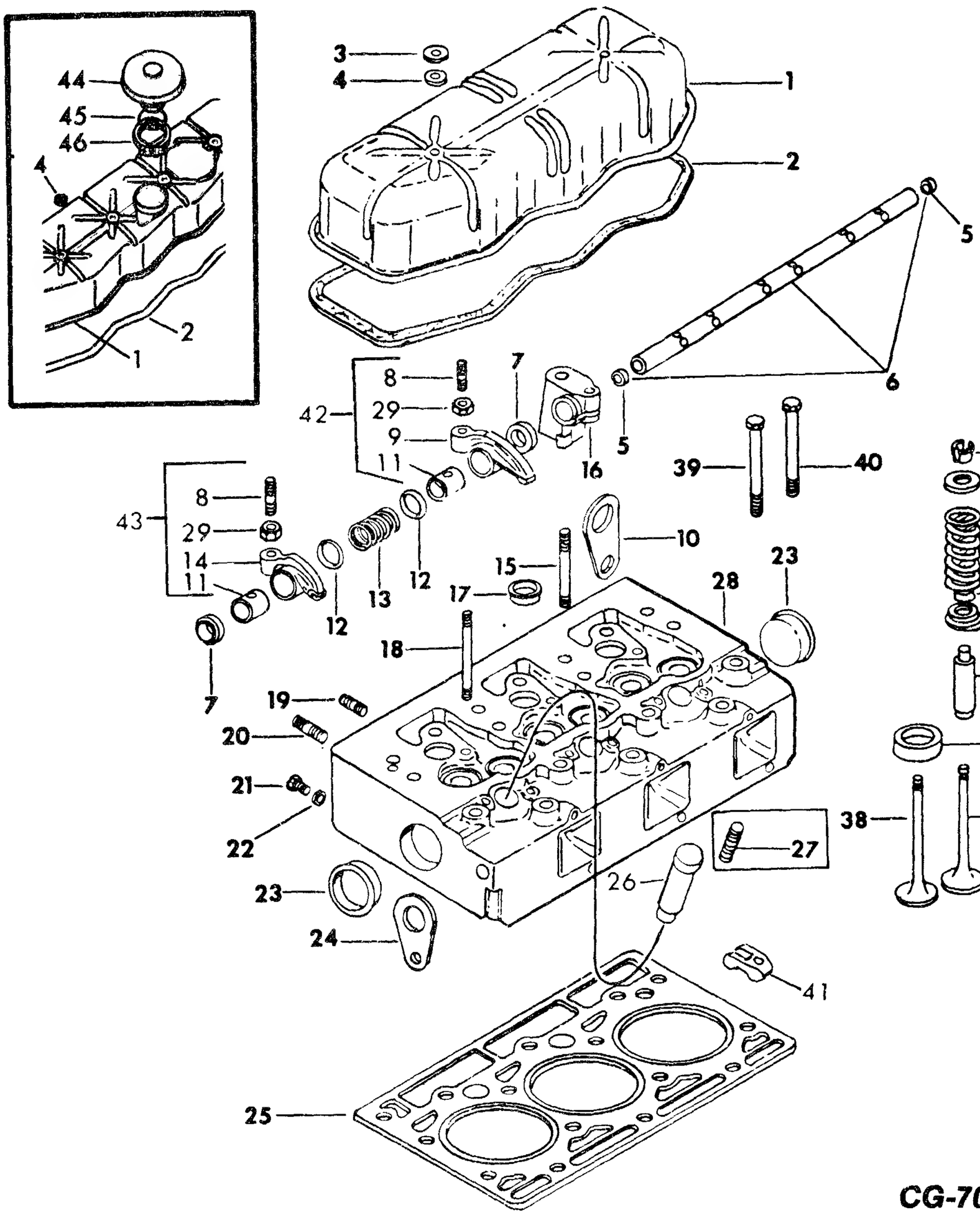
CYLINDER HEAD

REF. NO.	PART NUMBER	DESCRIPTION	REF. NO.	PART NUMBER	DESCRIPTION

CYLINDER HEAD AND RELATED PARTS



CG-7027

1	3 136 364 R1	COVER, valve housing (use with crankcase side cover breather)
1	3 144 787 R1	COVER, valve housing (used with valve cover breather package)
2	3 138 641 R1	GASKET, valve housing cover
3	3 138 637 R1	WASHER, valve housing cover (2)
4	3 138 638 R1	GASKET, valve housing cover (2)
5	933 565 R1	PLUG, expansion (2)
6	3 055 069 R21	SHAFT ASSY, w/two PLUG, 933 565 R1 rocker arm
7	3 055 068 R1	BUSHING, distance (5)
8	3 132 137 R1	SCREW, rocker arm adjusting (6)
9		ARM, intake rocker (Not Furnished Separately) (3)
10	3 055 369 R1 271 604	SHACKLE, engine mounting, RH SCREW, hex-hd cap
11	3 132 019 R1	BUSHING (6)

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REF. NO.	PART NUMBER	DESCRIPTION
CYLINDER HEAD AND RELATED PARTS – Continued		
12	3 055 669 R1	WASHER, thrust rocker arm (6)
13	3 055 075 R2	SPRING, rocker arm (3)
14		ARM ASSY., exhaust rocker (Not Furnished Separately) (3)
15	3 055 220 R1	STUD, rocker shaft bracket (4)
16	3 055 077 R6	BRACKET, rocker arm shaft (4)
	103 028	NUT (4)
	179 822	SCREW, hex-hd cap (4)
	3 050 129 R1	WASHER, lock (4)
17	933 750 R1	PLUG, expansion (32mm) (3)
	or	
17	934 804 R1	PLUG, expansion (34mm) (x)
18	3 055 223 R1	STUD, cylinder head cover (2)
	103 025	NUT (2)
19	3 055 221 R1	STUD, water collecting pipe (6)
20	3 055 663 R1	STUD, exhaust manifold (6)
21	934 259 R1	PLUG
22	718 743 R1	RING, packing
23	934 003 R1	PLUG, expansion (2)
24	3 055 370 R1	SHACKLE, engine mounting front
	271 604	SCREW, hex-hd cap
25	3 144 181 R2	GASKET, cylinder (Replaces GASKET, 3 132 282 R4)
26	3 055 344 R1	INSERT, nozzle holder (3)
27	3 055 412 R1	STUD, nozzle holder (6) 2400 and 4500 (SM) - 27204 and below 2400 (HS) - 57512 and below 3400 (SM and HS) - All built
	103 025	NUT, hex (12)
28	3 055 366 R96	HEAD ASSY., cylinder (Composed of – § 1 HEAD 3 PLUG 933 750 R1 2 PLUG 934 003 R1 6 GUIDE 3 055 022 R2 4 STUD 3 055 220 R1 6 STUD 3 055 221 R1 § 3 SEAT 2 STUD 3 055 223 R1 3 INSERT 3 055 344 R1)
29	3 132 138 R1	NUT, rocker arm adjusting (6)
30	3 055 057 R91	CONE, spring lock valve (12)
31	3 055 058 R2	CAP, valve spring retainer (6)
32	3 055 060 R1	SPRING, valve (6)
33		SEAL, valve stem (Order PACKAGE, 3 218 399 R91) (6)
34	3 055 059 R91	ROTOCAP, valve (6) 2400 and 4500 (SM) - 25810 and below 2400 (HS) - 56600 and below 3400 (SM and HS) - All built
34	3 218 069 R1	SPACER, lower valve spring (6) 2400 and 4500 (SM) - 25811 and up 2400 (HS) - 56601 and up 240A (SM) - 410000 and up 240A (HS) - 415000 and up 240A (TC) and 4500B (TC) - 400000 and up
35	3 055 022 R2	GUIDE, valve stem (6)
36	3 132 362 R1	INSERT, exhaust valve seat (0.40mm oversize) (3)
36	3 132 361 R1	INSERT, exhaust valve seat (0.15mm oversize) (3)
37	3 055 055 R2	VALVE, intake (3)
38	3 055 056 R2	VALVE, exhaust (3)
39	3 138 747 R1	BOLT, 5" long hex-hd (6)
40	3 138 748 R1	BOLT, 5-3/4" long hex-hd (8)
41	3 218 128 R1	CRAB, injector mounting (2) 2400 and 4500 (SM) - 27205 and up 2400 (HS) - 57513 and up 240A (SM) - 410000 and up 240A (HS) - 415000 and up 240A (TC) and 4500B (TC) - 400000 and up
	24 477 R1	SCREW, hex-hd cap (3)
	3 218 129 R1	WASHER, lock (3)
42	3 132 292 R91	PACKAGE, intake rocker arm (Consists of – § 1 ARM 1 NUT 3 132 138 R1 1 SCREW 3 132 137 R1 1 BUSHING 3 132 019 R1)
43	3 132 293 R91	PACKAGE, exhaust rocker arm (Consists of – § 1 ARM 1 NUT 3 132 138 R1 1 SCREW 3 132 137 R1 1 BUSHING 3 132 019 R1)
44		(See Individual Engine Variations)
45		(See Individual Engine Variations)
46		(See Individual Engine Variations)

§ - Not Furnished Separately.

(x) - As Required.

REF. NO.	PART NUMBER	DESCRIPTION

CYLINDER HEAD AND RELATED PARTS – Continued

	3 136 798 R97	PACKAGE, cylinder head gasket (Consists of -
	717 203 R1	"O" RING, injection nozzle (3)
	3 055 133 R1	RING, nozzle packing (6)
	3 138 641 R1	GASKET, valve housing cover
	3 055 397 R1	GASKET, intake manifold
	3 055 306 R1	GASKET, water collecting pipe(3)
	3 138 638 R1	GASKET, valve housing cover (2)
	3 056 941 R1	RING, nozzle packing (3)
	3 132 143 R1	GASKET, water outlet thermo-stat
	3 144 181 R2	GASKET, cylinder head
	3 132 434 R1	GASKET, exhaust manifold (3)
	3 218 399 R91	PACKAGE, valve seal service)

3 218 399 R91 PACKAGE, valve seal service
(Consists of -
§ 6 SEAL, valve
1 SLEEVE 3 132 420 R1)

3 132 420 R1 SLEEVE (For mounting valve seal)

ENGINE VARIATIONS

(2400A, 2400B and 3400A)

44	3 144 117 R93	BREATHER, filter cap (See Note)
45	3 070 232 R1	"O" RING, breather (See Note)
46	3 144 120 R1	CLAMP, breather (See Note)
	3 144 785 R91	PACKAGE, valve housing cover breather field improvement (Used to avoid oil loss through crankcase breather during tractor operation with extreme sloping positions) (Consists of -

1	CAP	3 144 117 R93
1	CLAMP	3 144 120 R1
1	COVER	3 144 789 R1
1	COVER	3 144 787 R1
1	GASKET	3 138 639 R1
1	GASKET	3 138 641 R1
1	"O" RING	3 070 232 R1
2	RING	3 138 638 R1

NOTE: Used with valve housing cover breather package.

(§)- Not Furnished Separately.

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(REFER TO CHASSIS PARTS CATALOG)

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REFER TO ALPHABETICAL INDEX
FOR COMPLETE LISTING OF PARTS

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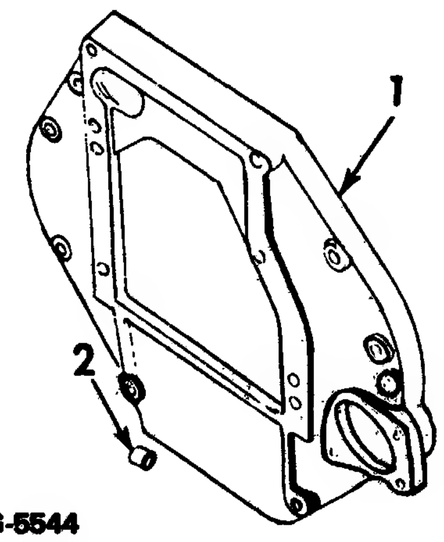
ENGINE MOUNTING

REF. NO.	PART NUMBER	DESCRIPTION	REF. NO.	PART NUMBER	DESCRIPTION

FLYWHEEL PLATE



CG-5544

1	3 136 059 R22	PLATE w/BUSHING, 3 136 060 R2, flywheel	
	179 885	SCREW, hex-hd cap (4)	
	3 050 128 R1	WASHER, lock (4)	
2	3 136 060 R2	BUSHING (2)	

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REFER TO ALPHABETICAL INDEX
FOR COMPLETE LISTING OF PARTS

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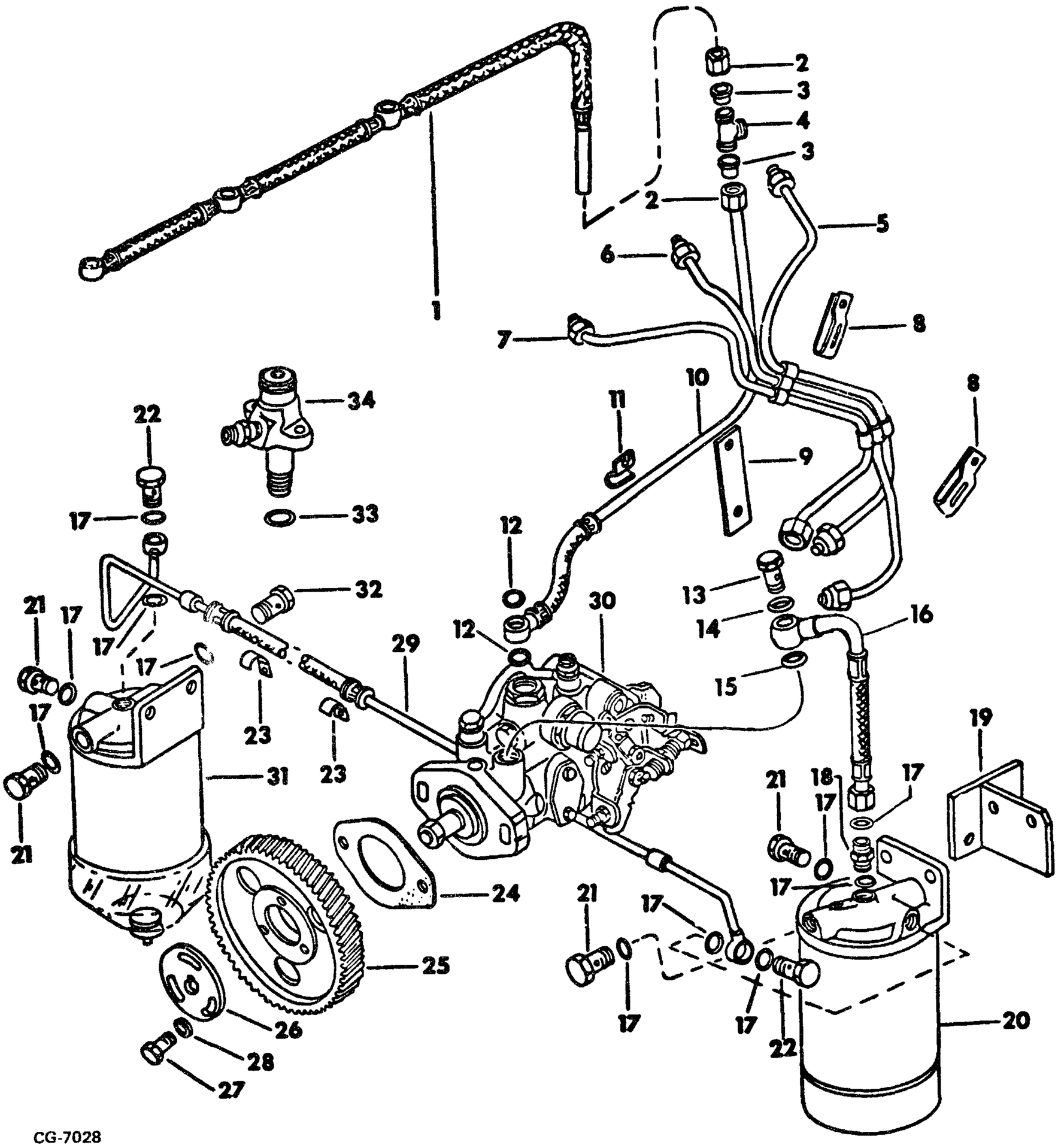
REF. NO.	PART NUMBER	DESCRIPTION	REF. NO.	PART NUMBER	DESCRIPTION

FUEL INJECTION PUMP CONNECTIONS
(For Bosch Model BR Fuel Injection Pump)



1	3 132 826 R1	LINE, leak	8	3 132 766 R1	CLAMP, pipe (2)
				176 793	SCREW, 5/8" long hex-hd cap
2	3 056 137 R1	NUT, coupling (2)		179 791	SCREW, 1/2" long hex-hd cap
				103 319	WASHER, lock (2)
3	3 056 136 R1	RING, cutting (2)		109 084	NUT, hex
4	3 055 739 R1	TEE, union	9	3 132 174 R1	LINK, fuel line fixing
				179 835	SCREW, hex-hd cap
5	3 136 037 R11	PIPE ASSY., injection (Cylinder No. 3)		103 321	WASHER, lock
6	3 136 039 R11	PIPE ASSY., injection (Cylinder No. 2)	10	3 138 684 R1	LINE, overflow
7	3 136 038 R11	PIPE ASSY., injection (Cylinder No. 1)	11	3 059 647 R1	CLIP, fuel line
				179 791	SCREW, hex-hd cap
				103 319	WASHER, lock

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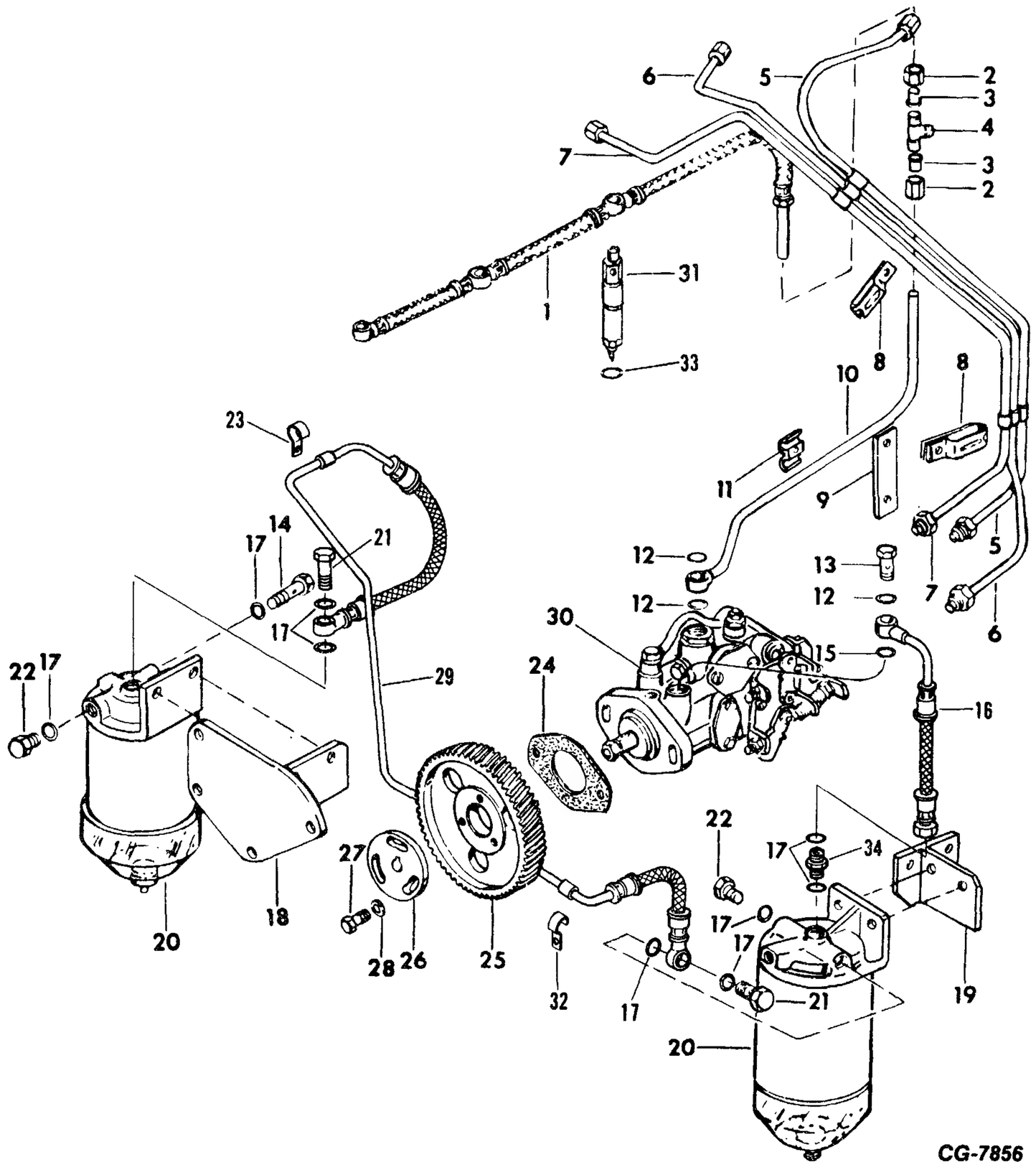
REF. NO.	PART NUMBER	DESCRIPTION

FUEL INJECTION PUMP CONNECTIONS - Continued
(For Bosch Model BR Fuel Injection Pump)

12	713 845 R1	RING, packing (2)
13	717 200 R1	SCREW, hollow
14	713 845 R1	RING, packing
15	934 005 R1	RING, packing (Replaces 3 055 390 R1)
16	3 144 620 R2	LINE, filter injection pump fuel (Will work for 3 132 487 R1)
17	933 610 R1	RING, packing (11)
18	3 132 483 R1	CONNECTOR
19	3 136 265 R11	BRACKET, fuel filter assy.
	179 838	BOLT, hex-hd (2)
	103 321	WASHER, spring (2)
20		FILTER ASSY., final fuel (Refer to "Final Fuel Filter")
	179 838	SCREW, hex-hd cap (2)
	933 620 R1	DISK, spring (2)
21	712 616 R1	PLUG, closing (4)
22	710 098 R2	SCREW, hollow (2)
23	3 132 052 R1	CLIP, fuel line (2)
24	3 055 384 R1	GASKET, fuel injection pump
25	3 056 885 R3	GEAR, injection pump (66 Teeth)
26	3 055 067 R2	HUB, injection pump gear
27	25 228 R1	SCREW, hex-hd cap (3)
28	30 183 R1	WASHER, flat (3)
29	3 136 051 R2	LINE, primary to final filter fuel
30		PUMP ASSY., fuel injection (Refer to "Fuel Injection Pump")
	102 634	NUT, hex (2)
	103 320	WASHER, lock (2)
	3 055 574 R1	WASHER, flat (2)
31		FILTER ASSY., primary fuel (Refer to "Primary Fuel Filter")
	179 837	SCREW, hex-hd cap (2)
	933 620 R1	DISK, spring (2)
32	3 056 600 R1	ADAPTER
33	717 203 R1	"O" RING, injection nozzle sealing (2)
34		HOLDER ASSY., injection nozzle (Refer to "Nozzle and Nozzle Holder") (3)
	103 325	NUT; 5/16-24 hex (2)

REF. NO.	PART NUMBER	DESCRIPTION

FUEL INJECTION PUMP CONNECTIONS
(For Bosch Model CR Fuel Injection Pump)



REF. NO.	PART NUMBER	DESCRIPTION
1	3 132 826 R1	LINE, leak 2400 and 4500 (SM) - 27204 and below 2400 (HS) 57512 and below 3400 (SM and HS) - All built
1	3 218 126 R1	LINE, leak 2400 and 4500 (SM) - 27205 and up 2400 (HS) - 57513 and up 240A (SM) - 410000 and up 240A (HS) - 415000 and up 240A (TC) and 4500B (TC) - 400000 and up
	3 218 130 R1	SCREW, hollow (3)
	933 696 R1	RING, packing (6)
2	3 056 137 R1	NUT, coupling (2)
3	3 056 136 R1	RING, cutting (2)
4	3 055 739 R1	TEE, union
5	3 144 409 R91	PIPE ASSY., injection (Cylinder No. 3) 2400 and 4500 (SM) - 27204 and below 2400 (HS) - 57512 and below 3400 (SM and HS) - All built

REF. NO.	PART NUMBER	DESCRIPTION
FUEL INJECTION PUMP CONNECTIONS — Continued (For Bosch Model CR Fuel Injection Pump)		
5	3 218 138 R1	PIPE ASSY, injection (Cylinder No. 3) 2400 and 4500 (SM) - 27205 and up 2400 (HS) - 57513 and up 240A (SM) - 410000 and up 240A (HS) - 415000 and up 240A (TC) and 4500B (TC) - 400000 and up
6	3 144 407 R91	PIPE ASSY, injection (Cylinder No. 2) 2400 and 4500 (SM - 27204 and below 2400 (HS) - 57512 and below 3400 (SM and HS) - All built
6	3 218 137 R1	PIPE ASSY, injection (Cylinder No. 2) 2400 and 4500 (SM) - 27205 and up 2400 (HS) - 57513 and up 240A (SM) - 410000 and up 240A (HS) - 415000 and up 240A (TC) and 4500B (TC) - 400000 and up
7	3 144 405 R91	PIPE ASSY, injection (Cylinder No. 1) 2400 and 4500 (SM) - 27204 and below 2400 (HS) - 57512 and below 3400 (SM and HS) - All built
7	3 218 136 R1	PIPE ASSY, injection (Cylinder No. 1) 2400 and 4500 (SM) - 27205 and up 2400 (HS) - 57512 and up 240A (SM) - 410000 and up 240A (HS) - 415000 and up 240A (TC) and 4500B (TC) - 400000 and up
8	3 218 242 R1 or	CLAMP, pipe (2)
8	3 132 766 R1 933 988 R1 931 330 R1	CLAMP, pipe (2) NUT, hex (2) SCREW, pan-hd (2)
9	3 132 174 R1 179 835 3 050 221 R1	LINK, fuel line fixing SCREW, hex-hd cap WASHER, lock
10	3 144 414 R1	LINE, overflow
11	3 055 386 R1 179 793 103 319 3 052 189 R1	CLIP, fuel line SCREW, hex-hd cap WASHER, lock WASHER
12	713 845 R1	RING, packing (3)
13	717 200 R1	SCREW, hollow
14	3 056 600 R1	ADAPTER
15	934 005 R1	RING, sealing (Will work for 3 055 390 R1)
16	3 144 347 R2	LINE, filter injection pump fuel For all models except, 240A and 4500B (TC) - 400999 and up 240A (SM) - 410384 and up 240A (HS) - 415104 and up
	933 610 R1	RING, packing (2)
	710 098 R2	SCREW, hollow
16	3 228 048 R1	LINE, filter injection pump fuel 240A and 4500B (TC) - 400999 and up 240A (SM - 410384 and up 240A (HS) - 415104 and up
17	933 610 R1	RING, packing (9 for all models except 6 for 240A and 4500B (TC) - 400999 and up 240A (SM) - 410384 and up 240A (HS) - 415104 and up)
18		COVER ASSY. (Refer to "Crankcase Front Cover and Related Parts")
	179 827	SCREW, hex-hd cap (4)
	103 320	WASHER, lock (4)
	102 634	NUT, hex (4)
19	3 144 498 R91	BRACKET, fuel filter For all models except, 240A and 4500B (TC) - 400999 and up 240A (SM) - 410384 and up 240A (HS) - 415104 and up
	179 837	SCREW, hex-hd cap (2)
	103 321	WASHER, lock (2)
	933 620 R1	DISK, spring (2)
19	3 228 051 R1	BRACKET, fuel filter 240A and 4500B (TC) - 400999 and up 240A (SM) - 410384 and up 240A (HS) - 415104 and up
	179 837	SCREW, hex-hd cap (2)
	933 620 R1	DISK, spring (2)
	3 050 221 R1	WASHER, lock (2)
20		FILTER ASSY, fuel (Refer to "Primary and Final Fuel Filter") (2)
	179 837	SCREW, hex-hd cap (6)
	933 620 R1	DISK, spring (4)
21	710 098 R2	SCREW, hollow (2)
22	712 616 R1	PLUG, closing (4) For all models except, 240A and 4500B (TC) - 400999 and up 240A (SM) - 410384 and up 240A (HS) - 415104 and up
23	3 132 052 R1	CLIP, fuel line For all models except, 240A and 4500B (TC) - 400999 and up 240A (SM) - 410384 and up 240A (HS) - 415104 and up

REF. NO.	PART NUMBER	DESCRIPTION

FUEL INJECTION PUMP CONNECTIONS – Continued
(For Bosch Model CR Fuel Injection Pump)

23	711 733 R1	CLIP, fuel line 240A and 4500B (TC) - 400999 and up 240A (SM) - 410384 and up 240A (HS) - 415104 and up
	3 055 574 R1	WASHER, fl. rd.
24	3 055 384 R1	GASKET, fuel injection pump
25	3 056 885 R3	GEAR, injection pump (66 Teeth)
26	3 055 067 R2	HUB, injection pump gear
	933 981 R1	NUT, hex
	933 834 R1	WASHER, lock
27	30 183 R1	SCREW, hex-hd cap (3)
28	25 228 R1	WASHER, flat (3)
29	3 144 501 R1	LINE, primary to final filter fuel All models except, 240A and 4500B (TC) - 400199 and up 240A (SM) - 410384 and up 240A (HS) - 415104 and up
29	3 228 049 R1	LINE, primary to final filter fuel 240A and 4500B (TC) - 400999 and up 240A (SM) - 410384 and up 240A (HS) - 415104 and up
30		PUMP ASSY, fuel injection (Refer to "Fuel Injection Pump")
	102 634	NUT, hex (2)
	3 050 129 R1	WASHER, lock (2)
	3 055 574 R1	WASHER, flat (2)
31		HOLDER ASSY, injection nozzle (Refer to "Nozzle and Nozzle Holder") (3)
32	3 056 927 R1	CLIP, fuel line
33	717 203 R1	"O" RING, injection nozzle sealing (3)
34	3 132 483 R1	CONNECTOR 240A and 4500B (TC) - 400999 and up 240A (SM) - 410384 and up 240A (HS) - 415104 and up

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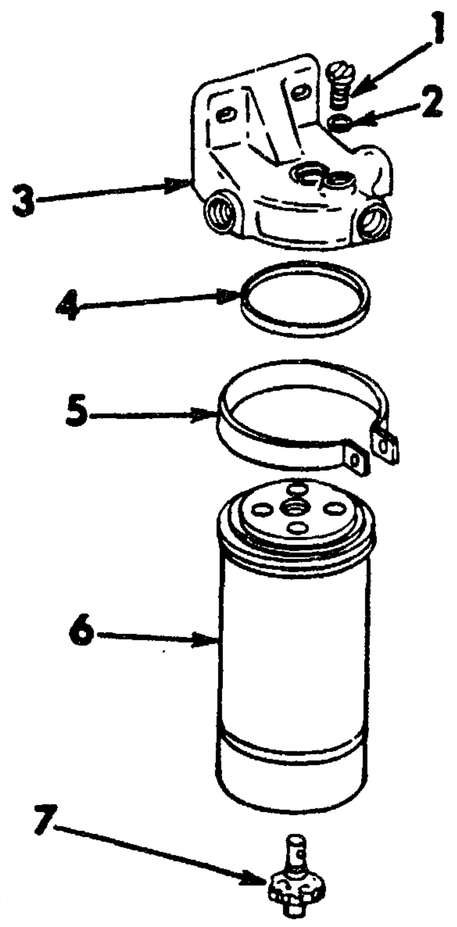
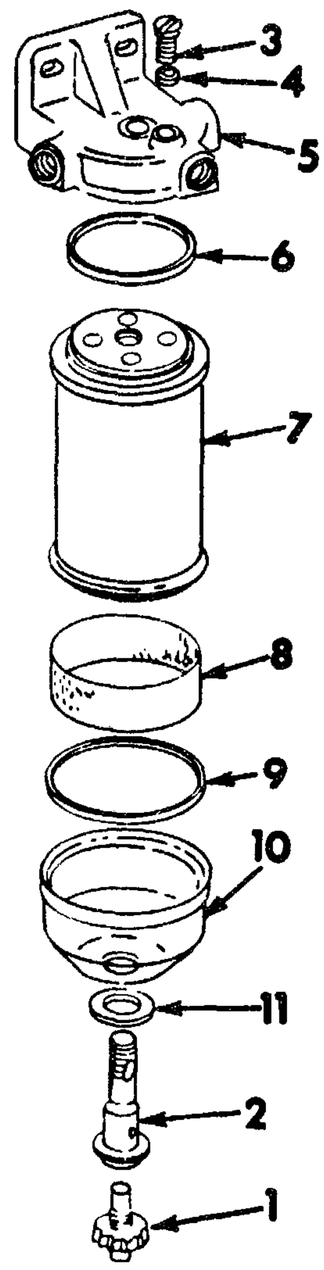
FINAL FUEL FILTER
(For Use w/Bosch Model BR Injection Pump)



CG-7030

REF. NO.	PART NUMBER	DESCRIPTION
	3 132 323 R91	FILTER ASSY., final fuel (Consists of the following parts -
1	3 144 780 R1	SCREW, air vent (Replaces 3 055 881 R1)
2	757 760 R1	RING, packing
3	3 132 198 R2	FILTER, head
4	3 132 193 R1	RING, packing
5	3 132 439 R1	CLAMP
6	3 132 428 R2	ELEMENT, filter
7	3 132 196 R1	PLUG, drain

PRIMARY FUEL FILTER
(For Use w/Bosch Model BR Injection Pump)

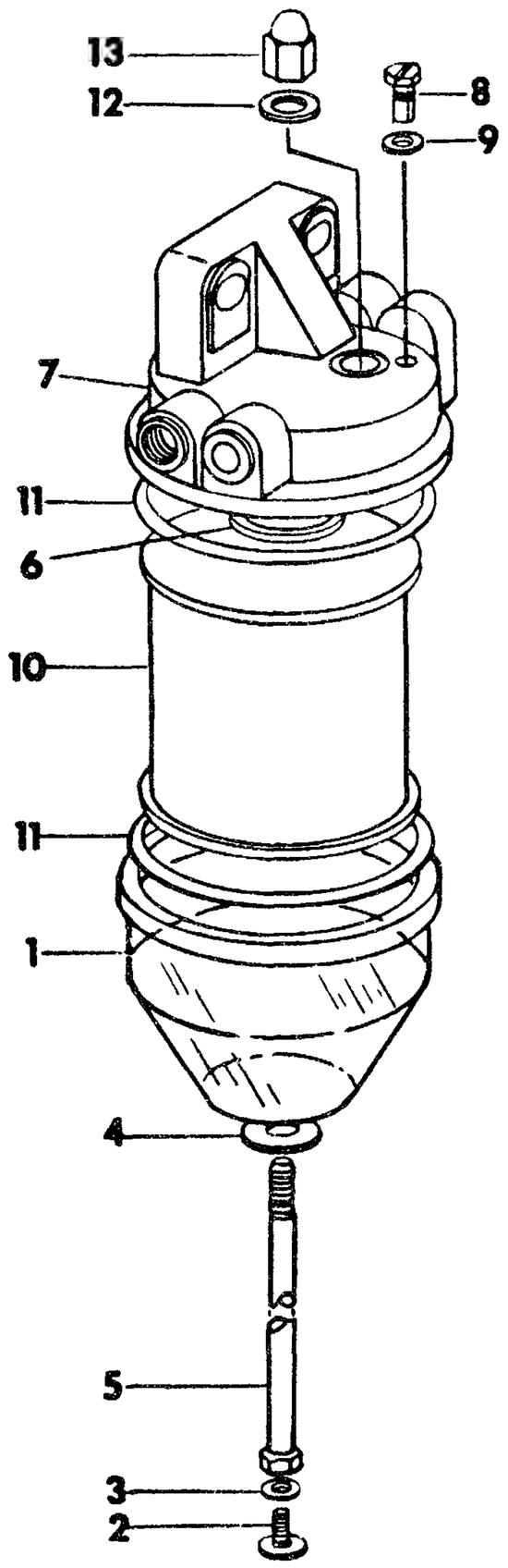


CG-7031

REF. NO.	PART NUMBER	DESCRIPTION
	3 132 273 R91	FILTER ASSY., primary fuel (Consists of the following parts -
1	3 132 196 R1	PLUG, drain
2	3 132 194 R1	SCREW, hollow
3	3 144 780 R1	SCREW, air vent (Replaces 3 055 881 R1)
4	757 760 R1	RING, packing
5	3 132 198 R2	HEAD, filter
6	3 132 193 R1	RING, packing
7	3 136 187 R91	PACKAGE, element service (Consists of ELEMENT and RING, 3 132 191 R1)
8	3 132 493 R1	RING
9	3 132 191 R1	RING, packing
10	3 132 197 R1	BOWL, transparent
11	3 132 192 R1	RING, packing

FUEL SYSTEM

PRIMARY AND FINAL FUEL FILTER
(For Use w/Bosch Model CR Injection Pump)
All Models except 240A (TC) 4500B (TC) - 400999 and up
240A (SM) - 410384 and up
240A (HS) - 415104 and up



REF. NO.	PART NUMBER	DESCRIPTION
	3 144 502 R92	FILTER ASSY, primary and final fuel (2) (Consists of the following parts -
1	3 144 478 R1	BOWL, glass
2	3 144 475 R1	SCREW, drain
3	3 144 476 R2	RING, packing
4	3 144 480 R1	RING, packing
5	3 144 479 R1	SCREW, hollow
6	3 144 779 R1	RING, packing (Replaces 3 078 483 R1)
7	3 144 503 R1	HEAD
8	3 144 780 R1	SCREW, air vent (Replaces 3 055 881 R1)
9	757 760 R1	RING, packing
10	3 144 477 R92	PACKAGE, element service (Consists of ELEMENT, RING, 3 144 472 R1 and RING, 3 144 779 R1)
	or	
10	3 044 506 R93	PACKAGE, element service
11	3 144 472 R1	RING, packing (2)
12	3 144 474 R1	RING, packing
13	3 144 473 R1	NUT, crown

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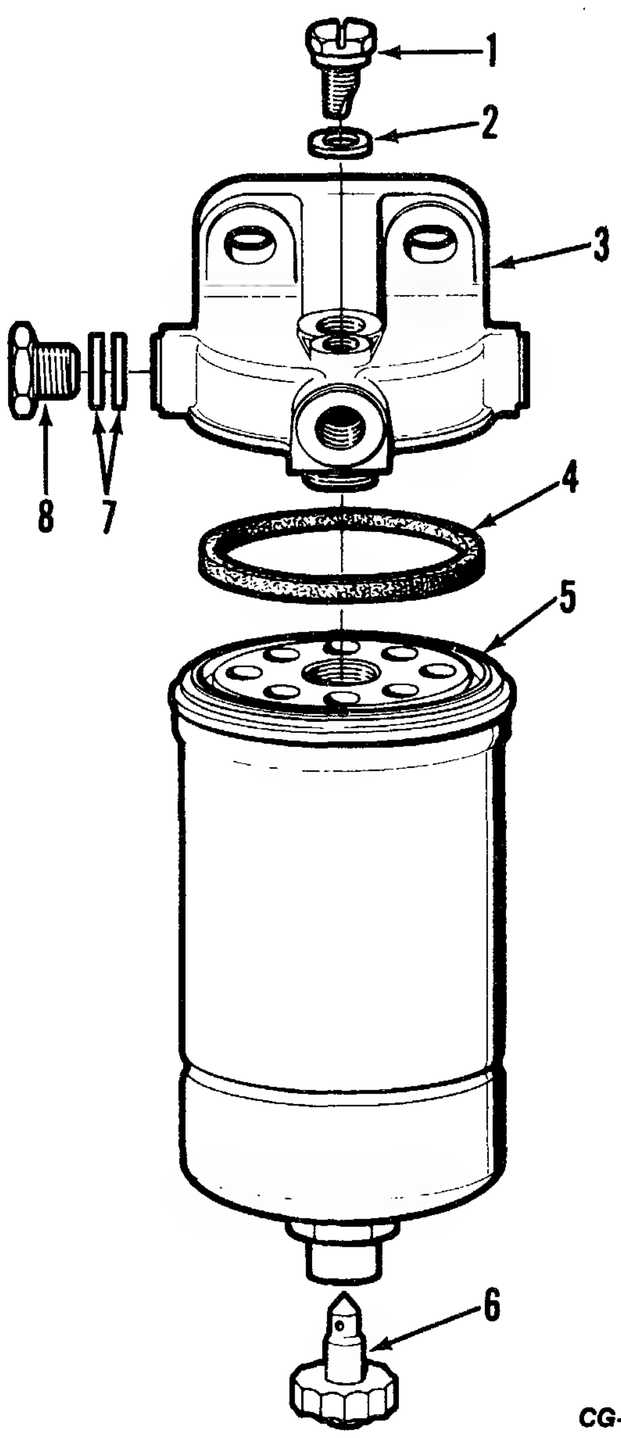
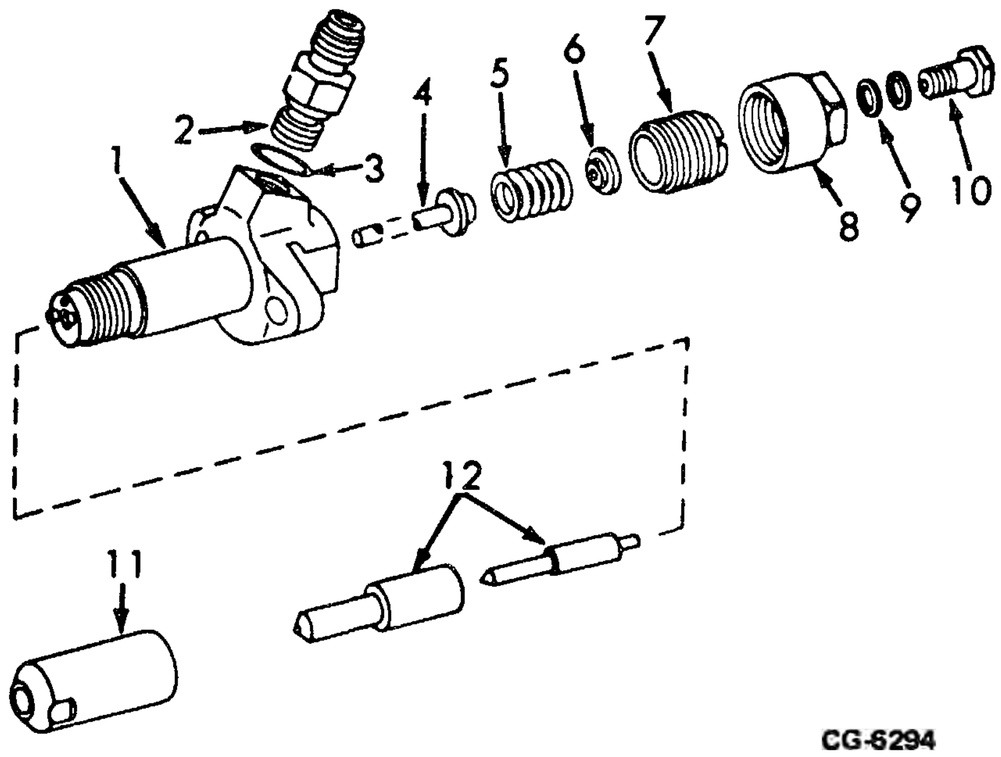
PRIMARY AND FINAL FUEL FILTER
(For Use w/Bosch Model CR Injection Pump)
240A (TC) 4500B (TC) - 400999 and up
240A (SM) - 410384 and up
240A (HS) - 415104 and up



CG-7722

REF. NO.	PART NUMBER	DESCRIPTION
	3 132 452 R92	FILTER ASSY, primary and final fuel (2) (Consists of the following parts -
1	3 144 780 R1	SCREW, air vent
2	757 760 R1	RING, packing
3	3 228 102 R1	HEAD w/four SEALING RING 933 610 R1 and two FILLER PLUG 712 616 R1, filter
4	3 132 193 R1	RING, packing
5	3 132 428 R2	ELEMENT w/RING and PLUG
6	3 132 196 R1	PLUG, drain
7	933 610 R1	RING, sealing (4)
8	712 616 R1	PLUG, filler (2)

NOZZLE AND NOZZLE HOLDER
2400 and 4500-SM 27204 and below
2400-HS 57512 and below
3400-SM and HS All Built

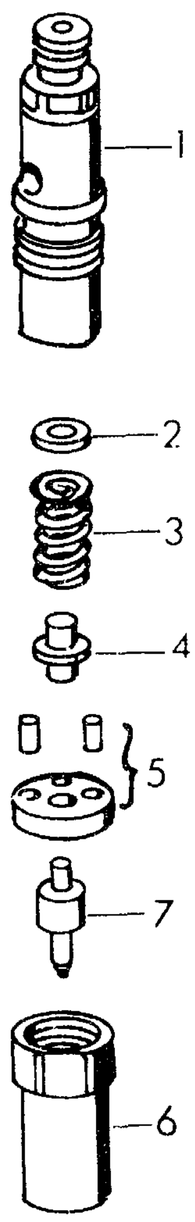


CG-6294

REF. NO.	PART NUMBER	DESCRIPTION
	3 055 423 R93	NOZZLE and HOLDER ASSY. (3) (Consists of the following parts -
1		BODY, injection nozzle holder (Not Furnished Separately)
2	3 056 940 R91	CONNECTION, fuel inlet
3	3 056 941 R1	WASHER, fuel inlet connection
4	3 056 939 R91	SPINDLE w/GUIDE
5	759 844 R1	SPRING
6	787 049 R1	SEAT, spring
7	3 132 998 R1	CAP, spring
8	3 056 943 R1	NUT, nozzle holder cap
9	3 053 133 R1	RING, packing (2)
10	3 132 999 R1	SCREW, hollow
11	3 133 042 R1	NUT, nozzle cap
12	3 055 428 R92	NOZZLE, injection
	3 055 298 R92	HOLDER ASSY, nozzle (Consists of Reference Nos. 1 thru 11) (3)
	103 025	NUT, hex (6)

FUEL SYSTEM

NOZZLE AND NOZZLE HOLDER
2400 and 4500 (SM) - 27205 and up
2400 (HS) - 57513 and up
240A (SM) - 410000 and up
240A (HS) - 415000 and up
240A (TC) and 4500B (TC) - 400000 and up



CG-6295

REF. NO.	PART NUMBER	DESCRIPTION
3	3 218 385 R2	SPRING, compression (Together w/PIN, 3 218 386 R2, replaces 3 218 385 R1)
4	3 218 386 R2	PIN, pressure (Together w/SPRING 3 218 385 R2 replaces 3 218 386 R1)
5	3 218 387 R1	SPACER
6	3 218 388 R1	NUT, cap
7	3 218 251 R2	NOZZLE, injection
	3 218 247 R92	HOLDER ASSY., nozzle (Consists of Reference Nos. 1 thru 6)
	3 218 250 R92	NOZZLE and HOLDER ASSY. (3) (Order NOZZLE, 3 218 251 R2 and HOLDER, 3 218 247 R92) (3)
	24 477 R1	SCREW, hex-hd cap (3)
	3 218 129 R1	WASHER, lock (3)
		(Consists of the following parts -
1	3 218 389 R1	BODY, nozzle holder
2	3 218 657 R1	SHIM (0.500mm) (x)
2	3 218 658 R1	SHIM (0.525mm) (x)
2	3 218 659 R1	SHIM (0.550mm) (x)
2	3 218 660 R1	SHIM (0.575mm) (x)
2	3 218 661 R1	SHIM (0.600mm) (x)
2	3 218 662 R1	SHIM (0.700mm) (x)
2	3 218 663 R1	SHIM (0.800mm) (x)
2	3 218 664 R1	SHIM (0.900mm) (x)

(x) - As Required.

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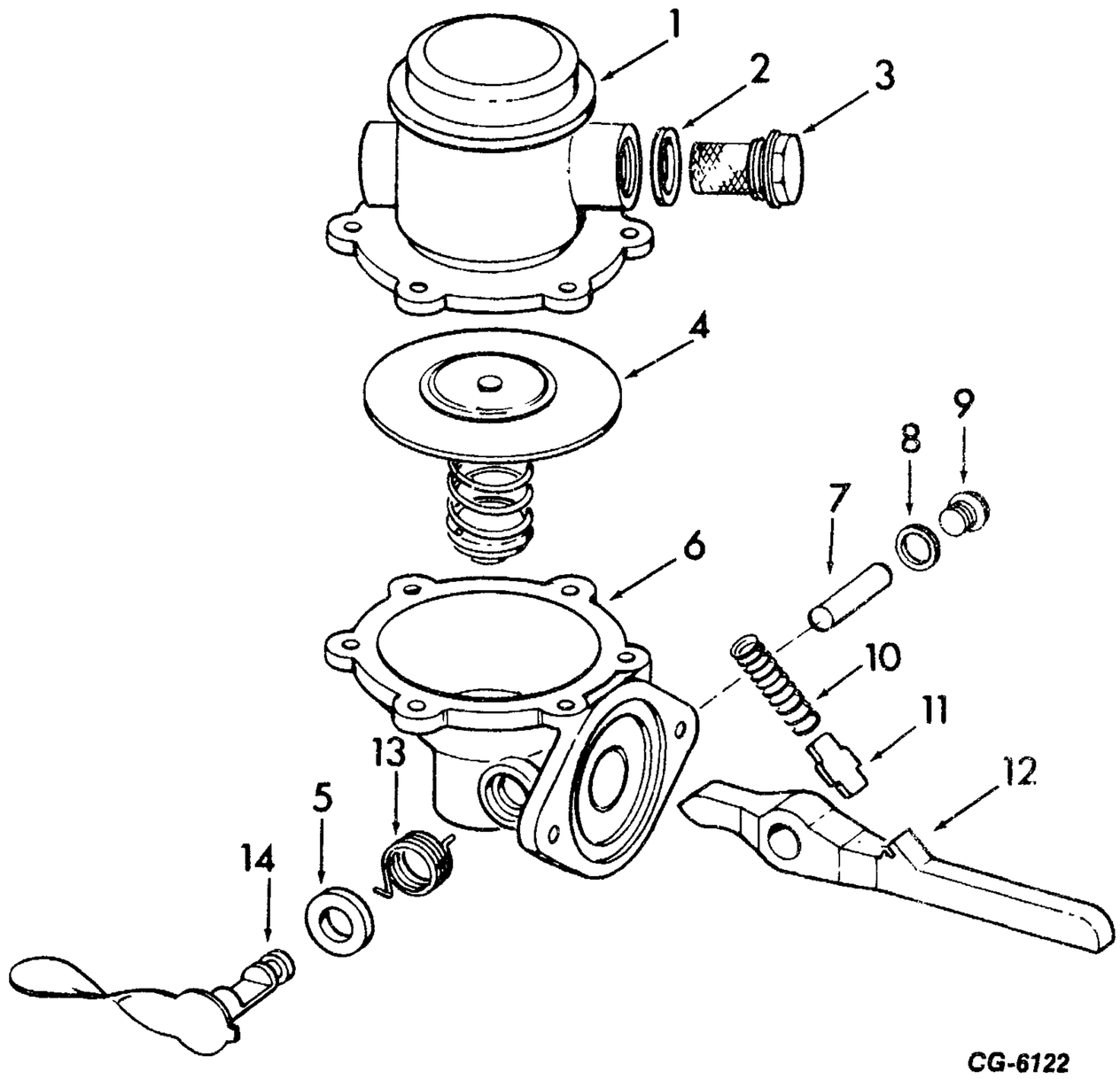
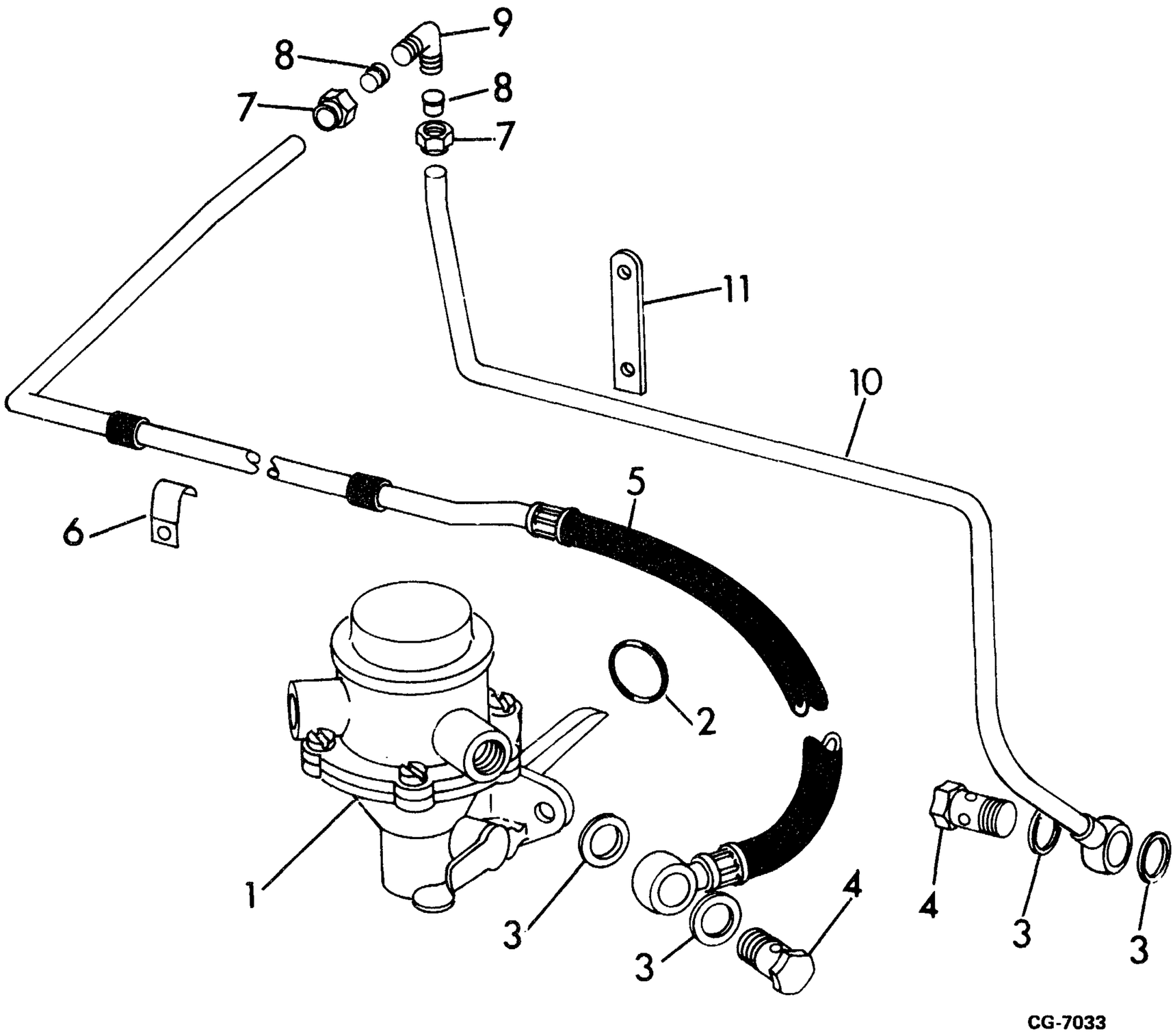
FUEL FEED PUMP
(2400 HS, 3400 SM and HS 53854 and up)



REF. NO.	PART NUMBER	DESCRIPTION
	3 132 697 R91	PUMP ASSY, fuel feed (Consists of the following parts -
1	3 132 796 R91	HEAD, pump
	3 132 330 R1	SCREW, fillister (6)
2	933 850 R1	RING, sealing
3	3 132 797 R1	FILTER, fuel
4	3 132 798 R1	DIAPHRAGM, pump
5	3 132 333 R1	RING
6	3 132 836 R1	UNDERBODY, pump
	3 132 331 R1	SCREW, oval hd slt (used w/HANDLE)
7	3 132 337 R1	AXLE
8	3 132 335 R1	RING, packing
9	3 132 336 R1	PLUG, drain, locking
10	3 132 339 R1	SPRING, compression
11	3 132 338 R1	SPRING, retainer
12	3 132 334 R1	HANDLE
13	3 132 332 R1	SPRING, extension
14	3 132 340 R1	LEVER, pump

REF. NO.	PART NUMBER	DESCRIPTION	REF. NO.	PART NUMBER	DESCRIPTION

FUEL FEED PUMP CONNECTIONS
(2400 HS, 3400 SM & HS - 53854 and up)



CG-7033

1		PUMP ASSY, fuel feed (Refer to "Fuel Feed Pump")	7	3 056 137 R1	NUT, tube (2)
	933 064 R1	NUT (2)	8	3 056 136 R1	SLEEVE, ferrule (2)
	933 682 R1	WASHER, flat (2)	9	3 144 730 R1	ELBOW, fuel line
2	3 055 389 R2	"O" RING	10	3 144 728 R2	TUBE, fuel (Filter to elbow)
3	933 610 R1	RING, packing (4)	11	3 055 387 R1	LINK, fuel lines fixing
4	710 098 R2	SCREW, hollow (2)		179 835	SCREW, hex-hd cap
5	3 144 729 R2	HOSE w/TUBE, fuel (Elbow to fuel feed pump)		3 050 221 R1	WASHER, lock
6	3 132 052 R1	CLIP, fuel line (2)			
	179 816	SCREW, hex-hd cap (2)			
	3 050 129 R1	WASHER, lock (2)			
	3 055 574 R1	WASHER, flat (4)			

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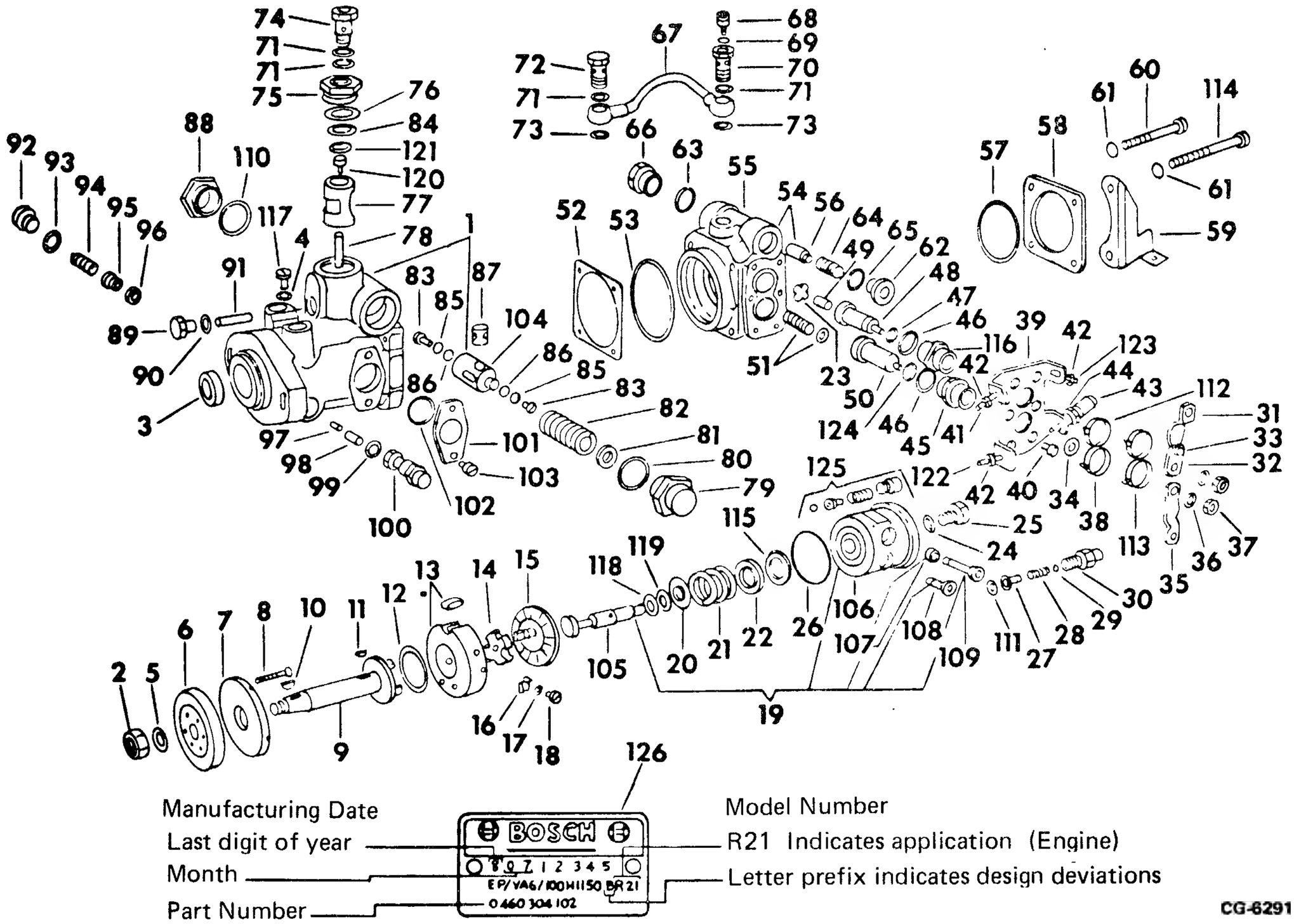
FUEL INJECTION PUMP
(Bosch Model BR)



REF. NO.	PART NUMBER	DESCRIPTION
		Parts without letters after the description indicate the part is used for both Pump Assemblies.
A	3 136 072 R93	PUMP ASSY, fuel injection (Bosch Model No. EP/VA3/100H 1100BR62) (2400 Series "A", 4500A and 4500B with Synchromesh Transmission) (See NOTE)
B	3 136 073 R93	PUMP ASSY., fuel injection (Bosch Model No. EP/VA3/100H 1200BR61) (2400 Series "A" with Hydrostatic Transmission and 3400 Series "A") (See NOTE) (Consists of the following parts -
1	3 136 259 R91	HOUSING w/timing advance PISTON, pump
2	933 981 R1	NUT, drive shaft
3	3 078 355 R2	OIL SEAL, drive shaft
4		(Order PACKAGE, 3 059 093 R91)
5	933 996 R1	WASHER, 1/2" med. lock
6	3 059 003 R91	ROTOR, charging pump
7	3 059 004 R1	RING, retainer support
8	3 132 364 R1	SCREW, retainer support ring (4)
9	3 059 001 R1	SHAFT, drive
10	3 079 101 R1	KEY, drive shaft (replaces 3 078 371 R1)
11	3 132 395 R1	KEY, charging pump Woodruff
12	3 059 006 R1	WASHER, drive shaft thrust

NOTE: To determine the service parts, it is necessary to know the Bosch Model Number and, in some cases, in addition the manufacturing date. This information is indicated on the Bosch name plate of the injection pump.

REF. NO.	PART NUMBER	DESCRIPTION
FUEL INJECTION PUMP - Continued (Bosch Model BR)		
13	3 078 345 R91	RING ASSY., roller retainer
14	3 059 007 R1	COUPLING, drive shaft flexible
15	3 059 098 R2	CAM, face
16	3 132 598 R1	POINTER, timing
17	933 982 R1	WASHER, timing pointer
18	931 326 R1	SCREW, timing pointer
19	3 078 804 R91	HEAD w/PLUNGER and CONTROL PISTON (Will work for 3 136 099 R91) (A)
19	3 078 845 R91	HEAD w/PLUNGER and CONTROL PISTON (Will work for 3 136 086 R91) (B)
20	3 136 092 R1	SEAT, spring plunger (.197")
20	3 136 093 R1	SEAT, spring plunger (.205")
20	3 136 094 R1	SEAT, spring plunger (.213")
20	3 136 095 R1	SEAT, spring plunger (.220")
20	3 136 096 R1	SEAT, spring plunger (.228")
20	3 136 097 R1	SEAT, spring plunger (.236")
20	3 136 394 R1	SEAT, spring plunger (.244")
21	3 132 257 R1	SPRING, plunger return
22	3 136 098 R1	SEAT, spring plunger
23	3 132 584 R1	DISK
24	3 132 407 R1	"O" RING, distributor head plug
25	3 059 063 R2	PLUG, distributor head
26	3 078 361 R1	PACKING RING, distributor head
27	3 136 100 R1	VALVE, delivery (3 for A)
27	3 136 088 R1	VALVE, delivery (3 for B)
28	3 132 408 R1	SPRING, delivery valve (3)
29	3 059 066 R1	WASHER, delivery valve spring (3)
30	3 059 067 R1	HOLDER, delivery valve (3)
31	3 132 590 R1 or	LEVER, throttle
31	3 132 591 R1	LEVER, throttle
32		NOT USED
33		NOT USED
34	3 059 076 R1	WASHER, control plunger shaft
35	3 059 077 R1 or	LEVER, control plunger
35	3 059 078 R1	LEVER, control plunger
36	933 987 R1	WASHER, 1/4" med. lock (2)
37	933 988 R1	NUT, hex. throttle lever (2)
38	3 132 589 R1	SPRING, control plunger shaft
39	3 136 110 R1	PLATE, stop
40	931 320 R1	SCREW, stop plate (4)
41	3 136 136 R1	SCREW, stop
42	933 988 R1	NUT, stop plate adj. screw (3)
43	3 132 251 R1	SCREW, advance piston stop
44	3 079 141 R1	NUT, shut-off control plunger stop (Replaces 3 059 096 R1, 3 079 120 R1)
45	3 059 072 R1	BUSHING, control plunger shaft
46	786 602 R1	"O" RING, control plunger and throttle shaft (2)
47	3 078 354 R1	"O" RING, throttle shaft
48	3 132 583 R1	SHAFT, throttle
49	3 132 256 R1	SPRING, throttle
50	3 132 260 R2	SHAFT, control plunger
51	3 136 101 R91	PACKAGE, pump plunger shim (A)
51	3 136 397 R91	PACKAGE, pump plunger shim (B)
52	3 132 377 R1	SHIM, intermediate housing (.009")
52	3 132 378 R1	SHIM, intermediate housing (.011")
52	3 059 040 R1	SHIM, intermediate housing (.008")
52	3 059 041 R1	SHIM, intermediate housing (.010")
52	3 059 042 R1	SHIM, intermediate housing (.012")
52	3 059 043 R1	SHIM, intermediate housing (.020")
52	3 059 044 R1	SHIM, intermediate housing (.024")
52	3 059 045 R1	SHIM, intermediate housing (.039")
53	3 078 360 R1	PACKING RING, housing
54	3 132 402 R1	HOUSING w/ACCUMULATOR PISTON, intermediate
55		HOUSING, intermediate (Order HOUSING, 3 132 402 R1)
56		PISTON, accumulator (Order HOUSING, 3 132 402 R1)
57	3 078 364 R1	PACKING RING, intermediate housing plate
58	3 059 083 R1	FLANGE, intermediate housing
59	3 078 549 R1	BRACKET, injection pump
60	3 132 249 R1	SCREW, intermediate housing mounting (2)
61	933 987 R1	WASHER, lock (4)
62	3 136 107 R1	PLUG w/STUD, accumulator piston
63	785 602 R1	"O" RING, accumulator piston plug

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REF. NO.	PART NUMBER	DESCRIPTION
FUEL INJECTION PUMP - Continued (Bosch Model BR)		
64	3 132 277 R1	SPRING, accumulator piston
65	785 602 R1	"O" RING, accumulator piston plug
66	3 059 052 R1	PLUG, accumulator piston
67	3 059 085 R1	TUBE, fuel supply
68	3 132 383 R1	SCREW, vent
69	933 696 R1	PACKING RING, vent screw, intermediate housing
70	3 136 149 R1	SCREW, inlet union
71	934 005 R1	"O" RING, packing (4)
72	3 059 086 R1	SCREW, housing inlet union
73	934 005 R1	"O" RING, packing (2)
74	3 132 412 R1	VALVE, overflow
75	3 059 014 R1	UNION, adapter
76	3 078 356 R1	"O" RING, union adapter adjusting housing
77	3 132 960 R1	PIN, adjusting
78	3 059 010 R1	PIN, connecting
79	3 136 131 R1	PLUG, advance piston spring (A)
79	3 136 087 R1	PLUG, advance piston spring (B)
80	3 078 357 R1	"O" RING, advance housing plug
81	790 783 R1	SHIM, advance piston spring (.020")
81	3 136 111 R1	SHIM, advance piston spring (.039")
81	3 078 460 R1	SHIM, advance piston spring (.118")
82	3 136 084 R1	SPRING, advance piston
83		NOT USED
84	933 845 R1	WASHER, lock
85		NOT USED
86		NOT USED
87	3 132 259 R1	SLIDER, advance piston
88	3 059 020 R1	PLUG, advance piston
89	3 132 578 R1	PLUG, advance linkage
90	933 087 R2	PACKING RING, plug advance housing
91	3 132 961 R1	PIN, connecting
92	3 059 038 R1	PLUG, regulator valve spring
93	3 078 358 R1	"O" RING, carrier and plug regulator valve
94	3 132 280 R1	SPRING, regulator valve
95	3 132 246 R1	BUSHING, regulator valve
96	3 078 359 R1	"O" RING, bushing regulator valve
97	3 059 026 R1	PISTON, regulator valve (.348")
97	3 059 027 R1	PISTON, regulator valve (.350")
97	3 059 028 R1	PISTON, regulator valve (.352")
97	3 059 029 R1	PISTON, regulator valve (.354")
97	3 059 030 R1	PISTON, regulator valve (.356")
97	3 059 031 R1	PISTON, regulator valve (.358")
97	3 059 032 R1	PISTON, regulator valve (.360")
97	3 059 033 R1	PISTON, regulator valve (.362")
97	3 059 034 R1	PISTON, regulator valve (.364")
97	3 132 366 R1	PISTON, regulator valve (.342")
97	3 132 367 R1	PISTON, regulator valve (.344")
97	3 132 368 R1	PISTON, regulator valve (.347")
97	3 132 369 R1	PISTON, regulator valve (.366")
97	3 132 370 R1	PISTON, regulator valve (.368")
97	3 132 371 R1	PISTON, regulator valve (.370")
97	3 132 373 R1	PISTON, regulator valve (.374") (No longer available)
97	3 132 374 R1	PISTON, regulator valve (.376") (No longer available)
97	3 132 375 R1	PISTON, regulator valve (.378")
98	3 132 255 R1	SPRING, regulator piston
99	3 078 358 R1	"O" RING, carrier and plug regulator valve
100	3 059 025 R91	CARRIER, regulator valve
101	3 059 091 R1	COVER, timing window
102	3 054 854 R1	"O" RING, timing window
103	931 327 R1	SCREW, timing window cover (2)
104		Not Furnished Separately. (Order HOUSING, 3 136 259 R1)
105		Not Furnished Separately.
106		Not Furnished Separately.
107		Not Furnished Separately.
108		Not Furnished Separately.
109		Not Furnished Separately.
110	3 078 357 R1	"O" RING, plug advance housing
111	3 079 378 R1	WASHER, delivery valve (Replaces 3 078 362 R1) (3)
112	3 132 588 R1	SPRING, throttle shaft
113		NOT USED
114	3 132 250 R1	SCREW, intermediate housing mounting (2)
115		NOT USED

REF. NO.	PART NUMBER	DESCRIPTION

FUEL INJECTION PUMP - Continued
(Bosch Model BR)

116	3 132 587 R1	BUSHING, throttle shaft
117		NOT USED
118	3 136 090 R1	SPACER, injection plunger
119	3 136 091 R2	WASHER, injection plunger thrust
120	3 132 883 R1	PIN, advance piston
121	3 132 884 R1	WASHER, advance piston
122	3 059 074 R1	SCREW, stop plate adjusting
123	3 132 885 R1	SCREW, advance piston stop
124	3 078 363 R1	"O" RING, control plunger shaft
125	3 078 365 R1	SET, relief valve
126		NAME PLATE (Reference Only) (See NOTE)

3 059 093 R91 PACKAGE, gasket external
(Consists of -

1	"O" RING	3 132 407 R1
2	"O" RING	785 602 R1
1	RING	933 696 R1
5	"O" RING	934 005 R1
1	"O" RING	3 078 356 R1
2	"O" RING	3 078 357 R1
2	"O" RING	3 078 358 R1
1	RING	933 087 R2
1	"O" RING	3 054 854 R1
1	"O" RING	3 078 357 R1
4	WASHER	3 078 362 R1)

3 059 094 R93 PACKAGE, gasket internal
(Consists of -

1	RING	3 078 361 R1
1	"O" RING	3 078 354 R1
1	RING	3 078 360 R1
1	"O" RING	3 078 359 R1
1	"O" RING	3 078 363 R1)

NOTE: To determine the service parts, it is necessary to know the Bosch Model Number and, in some cases in addition, the manufacturing date. This information is indicated on the Bosch Name Plate of the injection pump.

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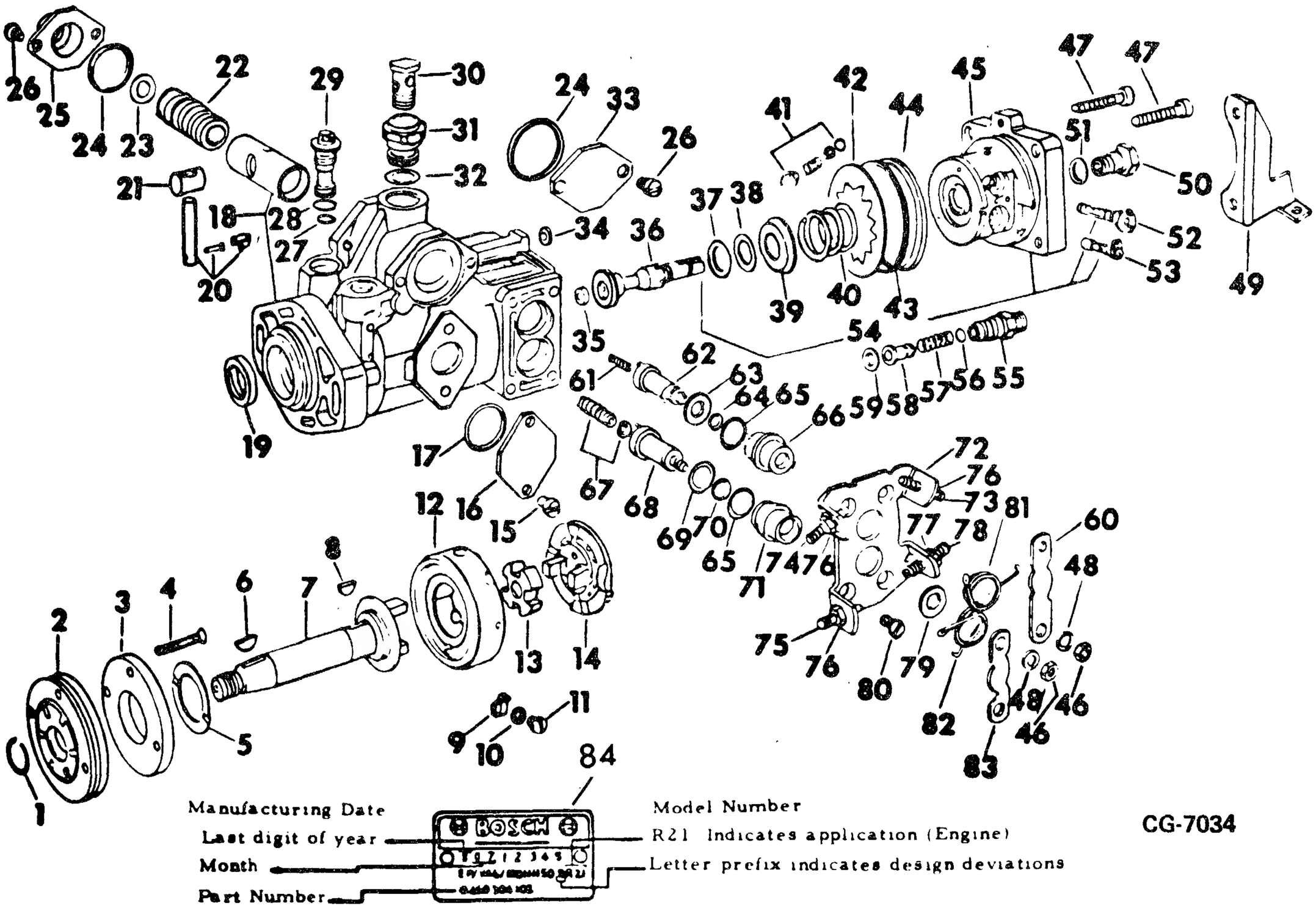
FUEL INJECTION PUMP
(Bosch Model CR)



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Parts without letters after the description indicate the part is used for both Pump Assemblies.

A	3 144 402 R91	PUMP ASSY, fuel injection (Bosch Model No. EP/VA3/100H 1100CR62) (2400A, 2400B, 2405B, 2410B, 2412B, 240A, 4500A and 4500B with Synchro-mesh Transmission) (See NOTE)
B	3 144 403 R91	PUMP ASSY, fuel injection (Bosch Model No. EP/VA3/100H 1200CR61) (2400A, 2400B, 2405B, 2410B, 2412B and 240A with Hydrostatic Transmission) (3400A) (240A and 4500B w/ Torque Converter Transmission) (See NOTE) (Consists of the following parts -
1	3 078 474 R1	RING, retaining
2	3 078 475 R91	PUMP, charge
3	3 078 476 R1	RING, charge pump support
4	3 078 477 R1	SCREW, retaining support ring (2)
5	3 078 479 R1	WASHER, roller retainer thrust
6	3 079 101 R1	KEY, drive shaft Woodruff (Replaces 3 078 371 R1)
7	3 078 473 R1	SHAFT, drive
8	3 132 395 R1	KEY, charging pump Woodruff
9	3 132 598 R1	POINTER, timing
10	933 982 R1	WASHER, lock
11	931 326 R1	SCREW, pan head
12	3 078 550 R91	RING, roller retainer

NOTE: To determine the service parts, it is necessary to know the Bosch Model Number and, in some cases in addition, the manufacturing date. This information is indicated on the Bosch name plate of the injection pump.

REF. NO.	PART NUMBER	DESCRIPTION
		FUEL INJECTION PUMP - Continued (Bosch Model CR)
13	3 059 007 R1	DISC, cross type cam face
14	3 078 696 R1	CAM, face
15	931 330 R1	SCREW, window cover (2)
16	3 078 486 R1	COVER, timing window
17	3 078 485 R1	PACKING RING, window cover
18	3 078 572 R91	HOUSING w/TIMING ADVANCE PISTON, pump (A)
18	3 078 564 R91	HOUSING w/TIMING ADVANCE PISTON, pump (B)
19	3 078 355 R2	OIL SEAL, drive shaft
20	3 078 481 R1	PIN, automatic advance connecting
21	3 078 482 R1	SLIDER, advance piston
22	3 078 608 R1	SPRING, advance piston (A)
22	3 078 565 R1	SPRING, advance piston (B)
23	3 078 528 R1	WASHER, thrust (.024") (x)
23	3 078 529 R1	WASHER, thrust (.031") (x)
23	3 078 530 R1	WASHER, thrust (.039") (x)
23	3 078 531 R1	WASHER, thrust (.047") (x)
23	3 078 532 R1	WASHER, thrust (.055") (x)
23	3 078 533 R1	WASHER, thrust (.118") (x)
24	3 078 488 R1	"O" RING, advance housing (2)
25	3 078 489 R1	PLATE, advance housing RH
26	931 585 R1	SCREW, advance housing plate (4)
27	3 078 535 R1	"O" RING, regulator valve
28	3 078 358 R1	"O" RING, regulator valve
29	3 078 698 R1	VALVE, regulator (A)
29	3 078 614 R91	VALVE, regulator (B)
30	3 059 086 R1	SCREW, inlet union
31	3 078 484 R1	VALVE, overflow
32	3 078 483 R1	"O" RING, union adapter adjusting housing
33	3 078 486 R1	PLATE, advance housing LH
34	3 078 487 R1	"O" RING
35	3 078 761 R2	WASHER, plunger (.071") (x)
35	3 078 763 R2	WASHER, plunger (.072") (x)
35	3 078 765 R2	WASHER, plunger (.074") (x)
35	3 078 767 R2	WASHER, plunger (.076") (x)
35	3 078 769 R2	WASHER, plunger (.077") (x)
35	3 078 771 R2	WASHER, plunger (.078") (x)
35	3 078 773 R2	WASHER, plunger (.080") (x)
35	3 078 775 R2	WASHER, plunger (.082") (x)
35	3 078 777 R2	WASHER, plunger (.083") (x)
35	3 078 779 R2	WASHER, plunger (.085") (x)
35	3 078 781 R2	WASHER, plunger (.087") (x)
35	3 078 783 R2	WASHER, plunger (.088") (x)
35	3 078 785 R2	WASHER, plunger (.090") (x)
35	3 078 787 R2	WASHER, plunger (.091") (x)
35	3 078 789 R2	WASHER, plunger (.093") (x)
35	3 078 791 R2	WASHER, plunger (.092") (x)
35	3 078 793 R2	WASHER, plunger (.096") (x)
35	3 078 795 R2	WASHER, plunger (.098") (x)
35	3 078 797 R2	WASHER, plunger (.099") (x)
35	3 078 799 R2	WASHER, plunger (.101") (x)
35	3 078 801 R2	WASHER, plunger (.102") (x)
35	3 078 803 R2	WASHER, plunger (.104") (x)
35	3 078 805 R2	WASHER, plunger (.106") (x)
35	3 078 807 R2	WASHER, plunger (.107") (x)
35	3 078 809 R2	WASHER, plunger (.109") (x)
35	3 078 811 R2	WASHER, plunger (.110") (x)
35	3 078 813 R2	WASHER, plunger (.112") (x)
35	3 078 815 R2	WASHER, plunger (.113") (x)
36		Not Furnished Separately.
37	3 078 540 R1	WASHER, plunger (.053") (x)
37	3 078 541 R1	WASHER, plunger (.063") (x)
37	3 078 542 R1	WASHER, plunger (.073") (x)
38	3 078 537 R1	WASHER, plunger (.065") (x)
38	3 078 571 R1	WASHER, plunger (.092") (x)
39	3 078 516 R1	SEAT, plunger spring
40	3 078 515 R1	SPRING, plunger
41	3 078 365 R91	SET, relief valve
42	3 078 576 R1	WASHER, spring
43	3 078 578 R1	FILTER
44	3 078 366 R1	"O" RING, distributor head
45		Not Furnished Separately.
46	933 988 R1	NUT, throttle and control hex (2)
47	3 078 600 R1	SCREW, pump to distributor head (4)
48	933 987 R1	WASHER, throttle and control lock (2)
49	3 078 549 R1	BRACKET, injection pump
50	3 078 514 R1	PLUG, distributor head
51	3 132 407 R1	RING, packing distributor head plug
52		Not Furnished Separately.
53		Not Furnished Separately.
54	3 078 770 R91	HEAD w/PLUNGER and CONTROL PISTON (A)
54	3 078 774 R91	HEAD w/PLUNGER and CONTROL PISTON (B)

(x) - As Required.

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REF. NO.	PART NUMBER	DESCRIPTION
FUEL INJECTION PUMP - Continued (Bosch Model CR)		
55	3 059 067 R1	HOLDER, delivery valve (3)
56	3 059 066 R1	WASHER, delivery valve (3)
57	3 132 408 R1	SPRING, delivery valve (3)
58	3 136 120 R1	VALVE, delivery (A) (3)
58	3 078 776 R1	VALVE, delivery (B) (3)
59	3 079 378 R1	WASHER, delivery valve (Replaces 3 078 362 R1) (3)
60	3 132 590 R1 or	LEVER, throttle
60	3 132 591 R1	LEVER, throttle
61	3 078 555 R1	SPRING, throttle
62	3 078 517 R1	SHAFT, throttle
63	3 078 519 R1	WASHER, throttle shaft
64	3 078 354 R1	"O" RING, throttle shaft
65	785 602 R1	"O" RING, control plunger and throttle (2)
66	3 078 556 R1	BUSHING, throttle shaft
67	3 078 772 R91	SERVICE PACKAGE, control plunger (A)
67	3 078 700 R91	SERVICE PACKAGE, control piunger (B)
68	3 078 521 R1	SHAFT, control plunger
69	3 078 523 R1	WASHER, control plunger shaft
70	3 078 363 R1	"O" RING, control plunger shaft
71	3 078 524 R1	BUSHING, control plunger shaft
72	3 078 557 R1	PLATE, stop
73	3 132 885 R1	SCREW, stop
74	3 136 136 R1	SCREW, stop
75	3 059 074 R1	SCREW, stop
76	933 988 R1	NUT, hex stop screw (3)
77	3 079 141 R1	NUT, hex (Replaces 3 059 096 R1, 3 079 120 R1)
78	3 132 251 R1	SCREW, stop
79	3 059 076 R1	WASHER, plunger shaft control
80	931 320 R1	SCREW, countersunk stop plate (4)
81	3 132 588 R1	SPRING, throttle shaft torsion
82	3 132 589 R1	SPRING, control plunger torsion
83	3 059 077 R1 or	LEVER, control plunger
83	3 059 078 R1	LEVER, control plunger
84		NAME PLATE (Reference only.) (See NOTE)
	3 078 526 R91	PACKAGE, fuel injection pump gasket (Used with CR injection pumps) (Consists of -
	3 078 485 R1	RING, packing
	3 078 488 R1	"O" RING, advance housing (2)
	3 078 535 R1	"O" RING, regulator valve
	3 078 358 R1	"O" RING, regulator valve
	3 078 483 R1	"O" RING, union adapter
	3 078 487 R1	"O" RING
	3 078 366 R1	"O" RING, distributor head
	3 078 354 R1	"O" RING, throttle shaft
	785 602 R1	"O" RING, control and throttle (2)
	3 078 363 R1	"O" RING, control plunger
	3 078 559 R1	"O" RING, magneto)

NOTE: To determine the service parts, it is necessary to know the Bosch Model Number and, in some cases in addition, the manufacturing date. This information is indicated on the Bosch name plate of the injection pump.

SECTION 12 NOT USED IN THIS CATALOG

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REFER TO ALPHABETICAL INDEX
FOR COMPLETE LISTING OF PARTS

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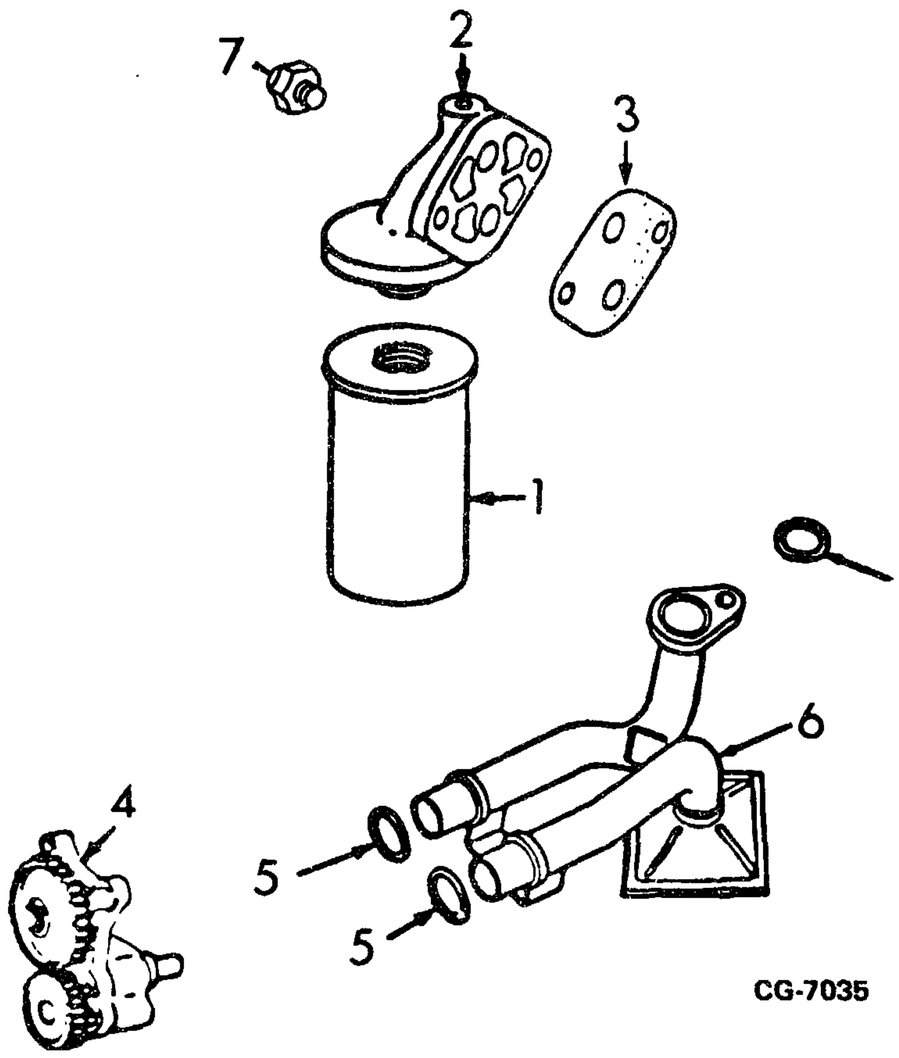
LUBRICATING OIL PUMP CONNECTIONS, FILTER, OIL PRESSURE SWITCH AND RELATED PARTS



CG-7035

REF. NO.	PART NUMBER	DESCRIPTION
1	3 136 046 R93	FILTER, oil
	or	
1	398 080 R2	FILTER, oil
2	3 136 047 R1	SOCKET, oil filter
	3 144 513 R1	DISK, spring (2)
	179 839	SCREW, hex-hd cap (2)
	445 684	PLUG, pipe
3	3 055 237 R1	GASKET, oil filter socket
4		PUMP ASSY., oil (Refer to "Lubricating Oil Pump")
	21 035 R1	SCREW, hex-soc-hd cap (4)
	3 050 129 R1	WASHER, lock (4)
5	3 055 199 R1	"O" RING (3)
6	3 132 828 R92	PIPE, oil pressure and suction
	179 816	SCREW, hex-hd cap
	3 050 129 R1	WASHER, lock
7	3 055 238 R92	SWITCH, oil pressure 240A (SM) - 410000 and up 240A (HS) - 415000 and up 240A (TC) and 4500B (TC) - 400000 and up

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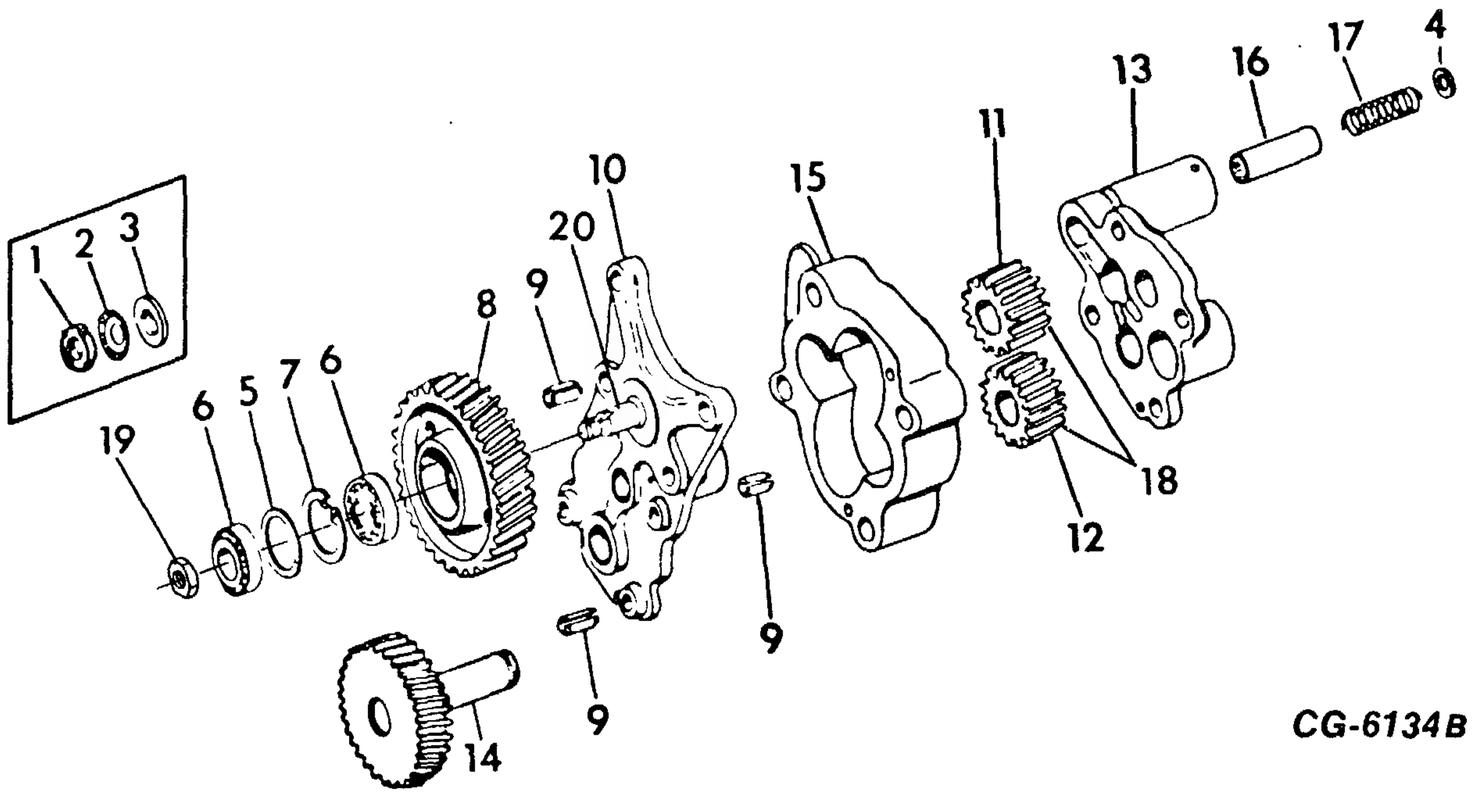
LUBRICATING OIL PUMP



CG-6134B

REF. NO.	PART NUMBER	DESCRIPTION
	3 136 429 R95	PUMP ASSY, oil (Consists of the following parts -
1	3 055 295 R1	NUT, shaft (Order NUT, 3 228 141 R1)
2	3 055 296 R1	PLATE, locking (Order NUT, 3 228 141 R1)
3	3 055 371 R2	WASHER, idler gear (Order NUT, 3 228 141 R1)
4	3 139 620 R1	WASHER, spring
5	3 055 292 R1	WASHER
6	476 046 R1	CUP, bearing (2)
	or	
6	3 055 294 R1	BEARING, taper roller (2)
7	933 579 R1	RING, locking
8	3 055 291 R1	GEAR, oil pump idler
9	932 597 R1	PIN, roll (3)
10	3 136 435 R95	CARRIER ASSY, oil pump (Composed of - 1 AXLE 3 055 297 R5; § 1 BUSHING; § 1 CARRIER; § 1 CASE; § 1 COVER; 3 PIN 932 597 R1; § 1 SHAFT)
	179 823	SCREW, hex-hd cap (4)
	102 634	NUT, hex (4)
	3 050 129 R1	WASHER, lock (4)
11		GEAR, idler (Not furnished separately)
12		GEAR, oil pump (Not furnished separately)
13		COVER, oil pump (Also part of CARRIER ASSY, 3 136 435 R95)
	103 387	PIN, cotter
14	3 136 437 R91	GEAR, drive
15		CASE, oil pump gear (Also part of CARRIER ASSY, 3 136 435 R95)
16	3 055 202 R2	VALVE, piston relief
17	3 136 264 R1	SPRING, pressure relief valve
18	3 136 440 R91	GEAR SET, oil pump
19	3 228 141 R1	NUT, lock (Replaces NUT, 3 055 295 R1 PLATE, 3 055 296 R1 and WASHER, 3 055 371 R2)
20	3 055 297 R5	AXLE, idler gear

§ - Not furnished separately.

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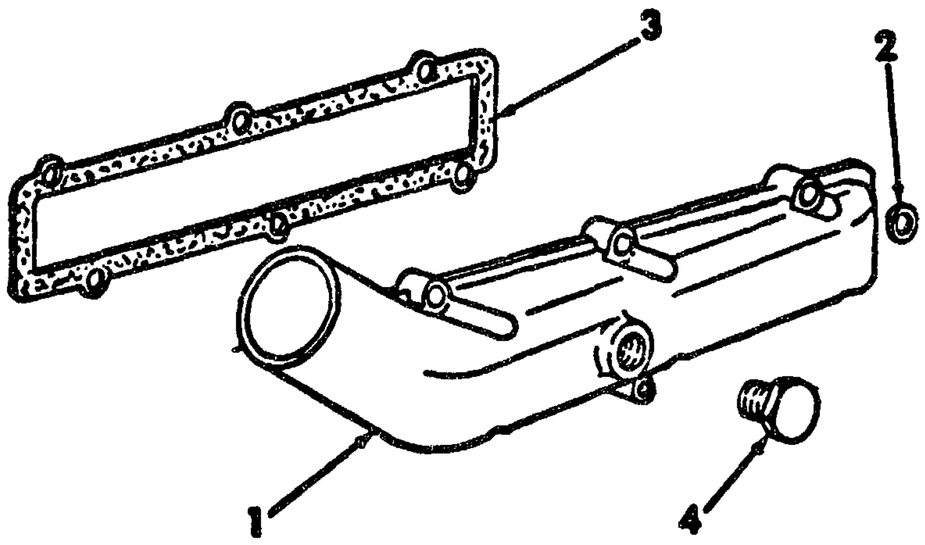
MANIFOLD

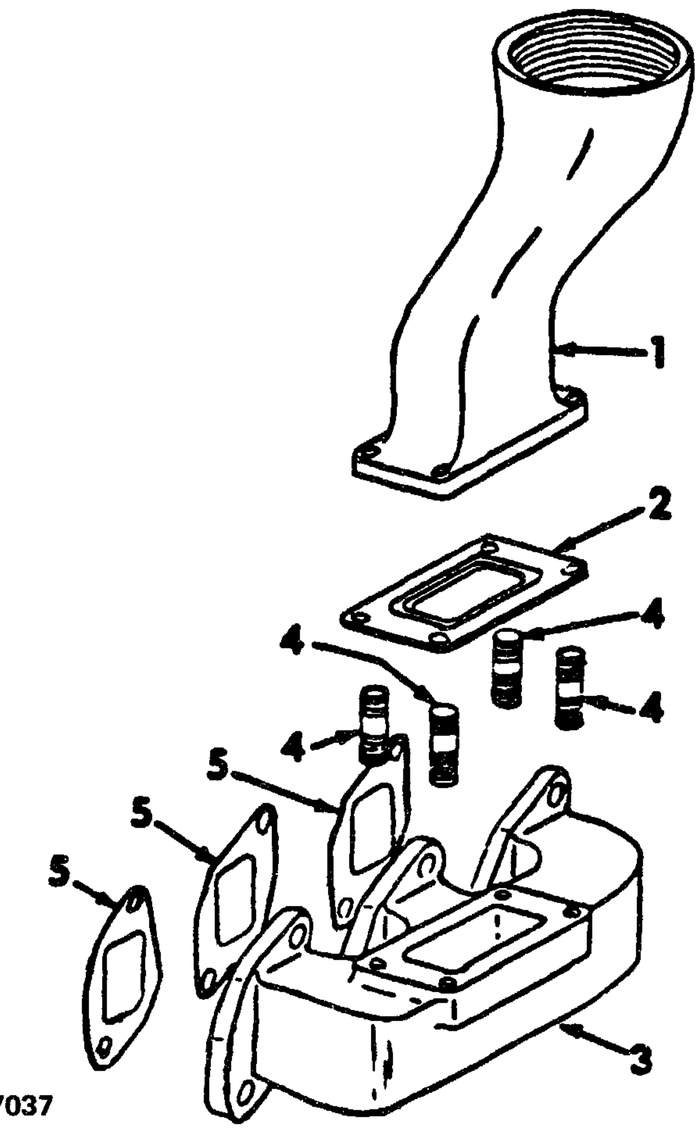
INTAKE MANIFOLD



CG-7036

REF. NO.	PART NUMBER	DESCRIPTION
1	3 138 824 R1	MANIFOLD, intake
	179 822	SCREW, hex-hd cap (6)
2	3 218 395 R1	DISK, spring (6)
3	3 055 277 R1	GASKET, intake manifold
	or	
3	3 055 397 R1	GASKET, intake manifold
4	3 136 229 R1	PLUG (2400A, 2400B, 2405B, 2410B, 2412B, 3400A, 4500A, 4500B (SM) and 240A (HS))
4	3 218 525 R91	CONNECTOR, service switch (240A (SM)) (240A (TC)) (4500B (TC))
	3 146 573 R92	PAD, filter

EXHAUST MANIFOLD (Vertical) (2400A) (+)



CG-7037

REF. NO.	PART NUMBER	DESCRIPTION
1	3 136 250 R1	ELBOW, exhaust manifold
2	3 136 248 R1	GASKET, exhaust manifold elbow
3	3 136 069 R12	MANIFOLD w/four STUD, 3 056 663 R1, exhaust
	103 026	NUT (6)
	20 285 H	WASHER, flat (6)
4	3 056 663 R1	STUD, manifold (4)
	102 635	NUT (4)
	103 321	WASHER, lock (4)
5	3 132 434 R1	GASKET, exhaust manifold (3)

(+) For 2400B, 2405B, 2410B, 2412B, 4500A, 4500B, 240A (SM), 240A (HS), 240A (TC) and 4500B (TC), refer to CHASSIS PARTS CATALOG.

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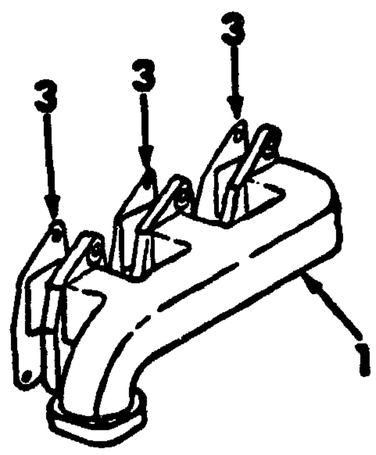
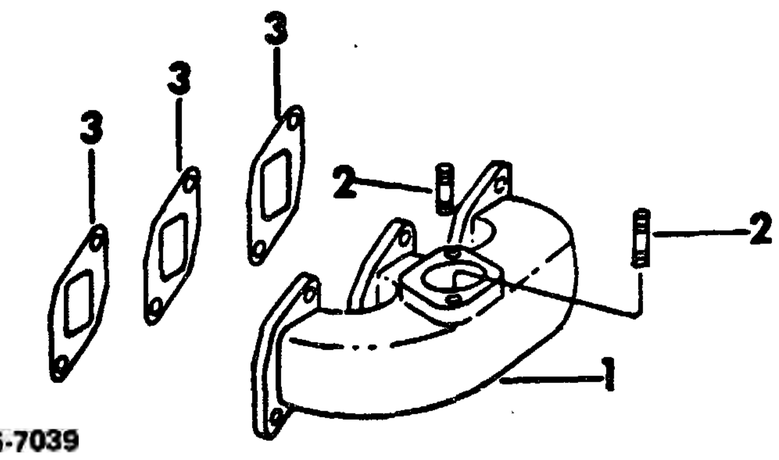
EXHAUST MANIFOLD
(Underslung)
(2400A, 2400B, 2405B, 2410B and 2412B)



REF. NO.	PART NUMBER	DESCRIPTION
1	3 055 124 R12	MANIFOLD w/two STUD,
		3 055 663 R1, exhaust
	103 026	NUT (6)
	20 285 H	WASHER, flat (6)
2	3 055 663 R1	STUD, exhaust manifold (2)
	103 026	NUT (2)
	103 321	WASHER, lock (2)
3	3 132 434 R1	GASKET, exhaust manifold (3)

EXHAUST MANIFOLD
(3400A)



REF. NO.	PART NUMBER	DESCRIPTION
1	3 058 002 R12	MANIFOLD w/two STUD,
		3 055 063 R1, exhaust
	20 285 H	WASHER, flat (6)
	103 026	NUT (6)
2	3 055 063 R1	STUD (2)
	103 026	NUT, hex (2)
	103 321	WASHER, lock (2)
3	3 132 434 R1	GASKET, exhaust manifold (3)

SECTION 15 NOT USED IN THIS CATALOG

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SECTION 16 NOT USED IN THIS CATALOG

ACCESSORIES 16

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SECTION 17 NOT USED IN THIS CATALOG

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